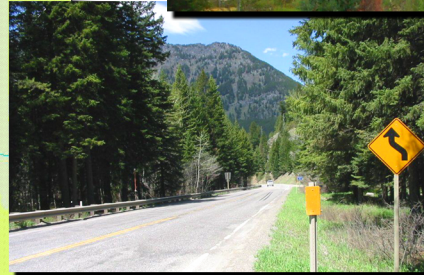
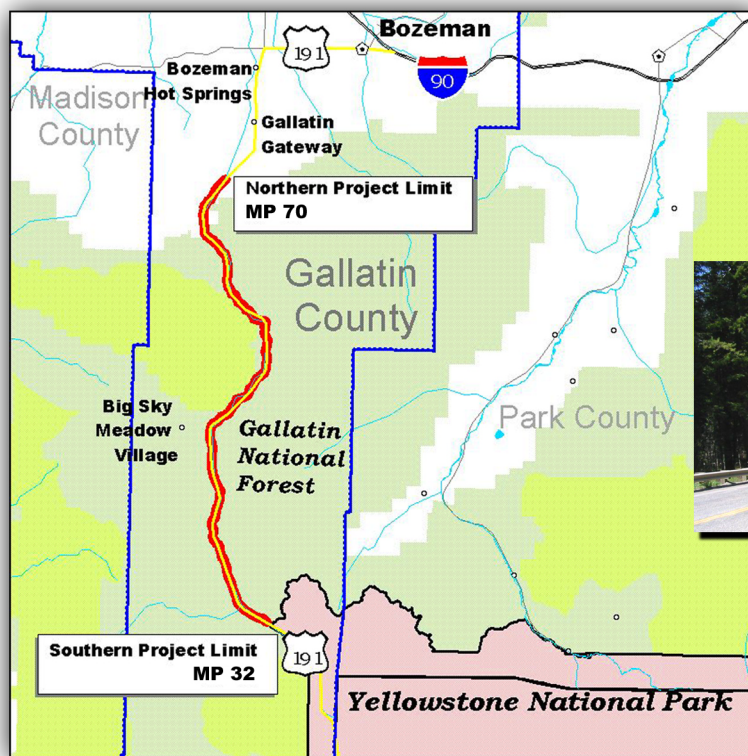


Environmental Assessment

Gallatin Canyon: Slope Flattening/Widening

October 2005

STPHS 50-1(14)8
Control No. A544



Montana Dept. of Transportation



U.S. Department of Transportation
Federal Highway Administration

Environmental Assessment

for

STPHS 50-1(14)8

GALLATIN CANYON SLOPE FLATTENING AND WIDENING

(P.M.S. Control No. A544)

in

Gallatin County, Montana

This document is prepared in conformance with the Montana Environmental Policy Act (MEPA) requirements and contains the information required for an Environmental Assessment under the provisions of ARM 18.2.237(2) and 18.2.239. It is also prepared in conformance with the National Environmental Policy Act (NEPA) requirements for an Environmental Assessment under 23 CFR 771.119, and Section 4(f) of the U.S. Department of Transportation Act under 23 CFR 771.135.

Submitted pursuant to **42 U.S.C. 4332(2)(c)**, **49 U.S.C. 303**,
Sections 75-1-201 & 2-3-104, M.C.A. and **Executive Orders 11990, 11988, and 12898**

by the

U.S. Department of Transportation, Federal Highway Administration

and the

Montana Department of Transportation

Cooperating Agencies:

U.S. Army Corps of Engineers

U.S.D.A. Gallatin National Forest

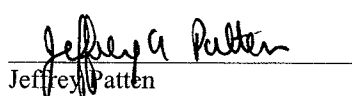
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Comments on this environmental assessment are due by January 27, 2006 and should be sent to Jean Riley, Montana Department of Transportation, at the address above. This document may also be viewed on the MDT web page, www.mdt.state.mt.us/environmental/eis-ea.

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Conversion Factors	
Metric	English
1 meter	3.281 feet
1 meter ²	10.764 feet ² or 1.195 yard ²
1 kilometer	0.622 miles
1 hectare	2.471 acres
1 hectare = 10,000 meters ²	
1 kilogram	2.205 pounds
English	Metric
1 foot	0.305 meters
1 foot ²	0.092 meter ²
1 mile	1.609 kilometers
1 acre	0.45 hectares
1 acre = 43,560 feet ²	
1 pound	0.45 kg

LIST OF ACRONYMS AND ABBREVIATIONS

AASHTO	American Association of State Highway and Transportation Officials
ac	acre
ADT	average daily traffic
BLM	US Bureau of Land Management
BMP	best management practice
BMU	Bear Management Units
CECRA	Comprehensive Environmental Cleanup and Responsibility Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CO	carbon monoxide
COE	US Army Corps of Engineers
CTEP	Community Transportation Enhancement Program
CWA	Clean Water Act
EA	environmental assessment
EIS	environmental impact statement
EO	Executive Order
EPA	US Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHPM	Federal Highway Program Manual
FHWA	Federal Highway Administration
FPPA	Farmland Protection Policy Act
ft	foot
GIS	Geographic Information Systems
GNF	Gallatin National Forest
GWMA	Gallatin Wildlife Management Area
ha	hectare
ICU	intensive care unit
IGBC	Interagency Grizzly Bear Committee
ISA	initial site assessment
km	kilometers
LAU	Lynx Analysis Unit
LCAS	Lynx Conservation Assessment and Strategy
LUST	leaking underground storage tank

LWCF	Land and Water Conservation Fund
m	meters
MBTA	Migratory Bird Treaty Act
MDEQ	Montana Department of Environmental Quality
MDT	Montana Department of Transportation
MEPA	Montana Environmental Policy Act
MFWP	Montana Fish and Wildlife Parks
mi	miles
MP	milepost
MPDES	Montana Pollutant Discharge Elimination System
mph	miles per hour
MT	Montana
MTNHP	Montana Natural Heritage Program
NEPA	National Environmental Policy Act
NFS	National Forest Service
NFSL	National Forest System Lands
NH	National Highway
NHPA	National Historic Preservation Act
NHS	National Highway System
NPS	National Park Service
NRCS	U.S. Department of Agriculture – Natural Resources Conservation Service
NRHP	National Register of Historic Places
PL	Public Law
PSI	Preliminary Site Investigation
RCRA	Resource Conservation and Recovery Act
SEIP	Safety Engineering Improvement Program
SHPO	Montana State Historic Preservation Office
SPA	Stream Protection Act
SWPPP	Stormwater Pollution Prevention Plan
TDS	total dissolved solids
TMDL	total maximum daily load
USC	US Code
USDA	US Department of Agriculture
USFS	United States Forest Service
USFWS	US Fish and Wildlife Service
UST	underground storage tank

SUMMARY

Introduction

The Montana Department of Transportation (MDT) proposes improvements at ten locations on National Highway (NH) Route 50/US 191 between milepost (MP) 32 and MP 70. The net length of proposed construction within this 61.2 km (38 mi) long project corridor is 9.7 km (6.0 mi). Proposed improvements would include turn lanes, widening of shoulders, slope flattening, clear zone improvements, improved site distance, new and upgraded guardrail, and bridge replacements. Improvements would address the primary needs to improve safety and reduce roadway deficiencies. US 191 is a two-lane road, which winds through a narrow canyon roughly parallel to the Gallatin River. The current roadway was constructed under three projects between 1985 and 1987 and has 3.6 m (12 ft) travel lanes, 0.8 m (2 ft) shoulders, no turn lanes, and substandard guardrails and steep side slopes in some locations.

MDT initiated a safety improvement project for US 191 in 1996 in response to analysis of crash data collected from January 1, 1984 through December 31, 1994. Safety improvements were proposed in three phases, this project being the second phase. The first phase of the project involved installation of new signs, upgrades to existing signs, continuous snowpole delineation, epoxy striping, and in some corridor locations, installation of new guardrail, and upgrade to current guardrail. The second phase is this project to provide additional safety improvements at ten specific locations. Safety improvements that were proposed for the third phase would include adding passing lanes in several locations in the canyon. Based on public concerns regarding the potential for increased traffic speeds through the canyon as a result of passing lanes, MDT is reconsidering the third phase of the project.

Purpose and Need

The purpose of the proposed Gallatin Canyon Slope Flattening/Widening project is to provide a transportation facility that improves the safety of travel on US 191 between MP 32 and MP 70. The lack of turn lanes to access residential, commercial, and recreational facilities in the corridor results in vehicles slowed and/or stopped in the roadway while attempting to initiate left and right turns. This situation, which is exacerbated by limited site distances on curves, causes rear-end vehicle collisions.

Roadway deficiencies also compromise the safety of the existing roadway. The guardrail in the corridor is substandard in some locations, and lacking completely in some areas. The slopes at some points in the corridor are steeper than 3:1 and generally exist within the roadside clear zone. These slopes are defined as critical slopes. In addition, the shoulders are 0.8 m (2 ft) wide, which does not allow much room for driver error, especially when roads are icy. These roadway deficiencies have resulted in off-road and overturning accidents.

Because safety projects are limited to the amount of work required to address the safety concern, design for these safety improvements would not fully meet all MDT design standards for reconstruction projects. In addition, the project corridor is adjacent to natural resources that would be impacted if width requirements and standards for slope and ditch sections were met throughout the project corridor. The proposed improvements would however address safety issues and meet MDT standards for guardrail at the ten locations listed in Table S.1. Proposed improvements include adding turn lanes, flattening side slopes, widening shoulders, and upgrading guardrail. These proposed improvements would address safety issues for the design year of 2023.

Alternatives Under Study

No-build Alternative

Under the No-Build Alternative, the characteristics of the corridor as they are today would be perpetuated. Routine maintenance of the corridor would continue.

Build Alternative

The Build Alternative for the proposed project corridor (MP 32 – MP 70) includes safety improvements at ten areas. Proposed improvements include turn lanes, slope flattening, widening of shoulders, improving clear zone, improving site distance, new and upgraded guardrail and two bridge replacements. The locations of these safety improvements are summarized in Table S.1, and shown on the resource maps in Appendix A.

Table S.1 Proposed Safety Improvements and Locations

Site	Milepost (MP)	Proposed Improvement
Red Cliff Area	41.5	<ul style="list-style-type: none"> • Left turn lane (southbound) • Widen shoulders on both sides • Upgrade/new guardrail (northbound)
Section House Area	43.1 – 44.1	<ul style="list-style-type: none"> • Slope flattening on both sides • Upgrade guardrail on both sides
Big Sky Area	45.0 – 48.4	<ul style="list-style-type: none"> • Roadway reconstruction • Bring curve up to standards for super elevation • Two-way left turn lane • Four right turn lanes (southbound) • Widen shoulders on both sides • Bridge replacement at West Fork Gallatin River • Upgrade/new guardrail on both sides
Jack Smith Bridge Area	49.6 – 49.8	<ul style="list-style-type: none"> • Slope flattening on both sides • Upgrade guardrail on both sides
Karst Ranch Area	55.3	<ul style="list-style-type: none"> • Left turn lane (northbound) • Widen shoulders on both sides • Upgrade/new guardrail (southbound)
Moose Creek Area	56.2	<ul style="list-style-type: none"> • Left turn lane (northbound) • Widen shoulders on both sides • Upgrade guardrail (southbound)
Swan Creek Area	57.3	<ul style="list-style-type: none"> • Left turn lane (southbound) • Widen shoulders on both sides • Bridge replacement at Swan Creek • Upgrade/new guardrail on both sides
Greek Creek Area	58.3	<ul style="list-style-type: none"> • Opposing left turn lanes • Widen shoulders on both sides • Upgrade/new guardrail (southbound)
Storm Castle Creek/ Castle Rock Inn Area	64.9 - 66	<ul style="list-style-type: none"> • 2 left turn lanes (southbound) • Slope flattening (northbound) • Widen shoulders on both sides • New guardrail (northbound)
Spanish Creek Area	67.9 – 68.1	<ul style="list-style-type: none"> • Widen shoulders on both sides • Upgrade guardrail (northbound)

Selection of a Preferred Alternative

After consideration of the purpose and need of the project to improve safety, the Build Alternative was selected as the Preferred Alternative for the proposed project. The proposed build alternative improves safety of travel on US 191 between MP 32 and MP 70 by implementing safety improvements and improving roadway deficiencies at ten locations along the US 191 corridor. The Build Alternative would achieve the purpose and need, while minimizing impacts in the corridor. The No-Build Alternative does not improve safety along the corridor, and therefore, does not meet the purpose and need of the project.

Summary of Environmental Impacts

Table S.2 provides a summary of environmental impacts for each area under the No-Build and Build Alternatives, and mitigation measures. Resources that are not present in the corridor or were found to have no impacts as a result of the proposed improvements are not listed in Table S.2. These include the following:

- Cultural Resources
- Energy
- Environmental Justice
- Farmlands
- Wild and Scenic Rivers
- Section 4(f) Properties
- Parks and Recreation/NL&WCF – Section 6(f)

Local and Regional Economics, Air Quality, and Noise, although found to have no permanent impacts, are listed in Table S.2 for temporary construction impacts only.

Table S.2 Summary of Impacts

Topic Area	No-Build Alternative	Preferred Alternative	Mitigation for Preferred Alternative
Access			
Access	No Impact	<p>Access to commercial property northwest of the West Fork Gallatin Bridge would be reconfigured in proximity to the existing location.</p> <p>Access to the private cabin east of US 191 and north of Swan Creek Road would be realigned onto Swan Creek Road.</p> <p>Would improve access to businesses, residences, and schools in the project corridor, and well as the recreational resources in these areas: Red Cliff Area, Big Sky Area, Karst Ranch Area, Swan Creek Area, Greek Creek Area, and Storm Castle Creek/Castle Rock Inn Area.</p>	No Mitigation Required
Construction Impacts	No Impact	Access to private properties and businesses along the corridor could be impacted during construction.	Access to private properties and businesses along the corridor would be maintained at all times.
Traffic			
Traffic Operations	Traffic flow impeded by vehicles that are slowed or stopped in travel lanes for turn movements.	Improved traffic flow throughout the project corridor due to the provision of turn lanes.	No Mitigation Required
Construction Impacts	No impact	May include temporary lane closures, delays, short-term travel on unpaved surfaces, and reduced travel speeds. The highway may be temporarily open to only one lane of traffic at some locations during construction.	The contractor would prepare a traffic control plan to minimize traffic disruption and would coordinate with emergency service providers and schools. Two lanes of traffic would be maintained to the extent practicable.

Table S.2 Summary of Impacts (continued)

Topic Area	No-Build Alternative	Preferred Alternative	Mitigation for Preferred Alternative
Safety			
Turn-Lanes	Existing safety issues continue.	Would reduce potential rear-end and left turn collisions.	No Mitigation Required
New and Upgraded Guardrail	Existing safety issues continue.	Would reduce the severity of off-road crashes.	No Mitigation Required
Slope Flattening	Existing safety issues continue.	Would improve recovery area and reduce the number of off-road and over turning crashes.	No Mitigation Required
Widening of Shoulders	Existing safety issues continue.	Would improve recovery area and reduce the number of off-road and over turning crashes.	No Mitigation Required
Pedestrians and Bicycles			
New bridge at the West Fork Gallatin River in the Big Sky Area	No Impact	Would include a multi-use path on the west side of the bridge to improve pedestrian access between the commercial facilities on the north side of the bridge and MT 64 to Big Sky.	No Mitigation
Bike Path in Big Sky Area	No Impact	Would be impacted by roadway widening for safety improvements. Although the separation between the reconstructed multi-use path and the travel lanes may not be as wide as current conditions, it would be consistent with the American Association of State Highway and Transportation Officials (AASHTO) standards	The multi-use path between MT 64 and Ophir School would be re-constructed.
Construction Impacts	No Impact	Construction impacts may include temporary closure of the bike/pedestrian path between MT 64 and Ophir School. Bicyclists along the corridor would experience short-term impacts from possible degradation of the roadway surface during construction.	Mitigation for construction impacts would include maintenance of pavement to the greatest extent practicable and additional pedestrian signage during construction.

Table S.2 Summary of Impacts (continued)

Topic Area	No-Build Alternative	Preferred Alternative	Mitigation for Preferred Alternative
Land Use			
Federal Land	No Impact	US Forest Service (USFS) land exists on both sides of most of the corridor. In the Karst Ranch improvement area, 0.02 ha (0.04 ac) would be converted to highway right-of-way to accommodate the proposed improvements. This land would be a linear strip along the existing highway right-of-way and the land use of the parcel as a whole would not change as a result of the improvements.	MDT would coordinate with the GNF, Montana Fish, Wildlife and Parks (MFWP), and US Fish and Wildlife Service (USFWS) to discuss any concerns these agencies may have regarding the safety improvements. MDT would coordinate with the USFS to ensure that planned improvements on US 191 are consistent with planned improvements on GNF lands.
Private Land	No Impact	Land from 15 private parcels in the Big Sky and Storm Castle Creek/Castle Rock Inn Areas would be converted to highway right-of-way. In all cases, the land area would be a linear strip adjacent to the existing highway right-of-way. In each case, the current land use of the parcel as a whole would not change as a result of the proposed improvements.	No Mitigation
County Land	No Impact	The proposed improvements in the Big Sky improvement area would convert 0.06 ha (0.15 ac) of land from the Ophir School District (District #72) to highway right-of-way. This land would be linear strip of land adjacent to the existing highway right-of-way and may impact the parking lot in front of the school. Consistent with Gallatin County Growth Policy.	MDT would coordinate with the Ophir School District to discuss any concern the district may have regarding the safety improvements and right-of-way impacts.
Construction Impacts	No Impact	Temporary construction easements for grading, temporary access, or temporary construction staging would be needed from property owners and public agencies along the corridor. Upon completion of the project, the owners would have unrestricted use of these areas again.	To address potential construction impacts to use of land, there would be early notification of property owners and public agencies about construction. Staging areas on National Forest System Lands (NFSL) would be coordinated and approved by the USFS prior to construction.

Table S.2 Summary of Impacts (continued)

Topic Area	No-Build Alternative	Preferred Alternative	Mitigation for Preferred Alternative
Local and Regional Economics			
Construction Impacts	No Impact	Would result in minor temporary economic benefits to the corridor communities through direct creation of new jobs.	No Mitigation
Community Resources			
Population	No Impact	No Impact	No Mitigation
Schools	No Impact	The two Ophir School bus stops located south of MT 64 could be beneficially affected by shoulder widening in the Big Sky Area. Access would be maintained, and safe bus stops would be incorporated into the final design. More discussion in Access and Construction Impacts	Discussed below in Construction Mitigation
Emergency Services	Potential delays in emergency response as traffic volumes increase in the corridor.	Widening the shoulders of US 191 in the improvement locations would improve movement of emergency equipment through the corridor by providing additional areas for cars to pull off and let emergency vehicles pass.	No Mitigation
Recreational Facilities	No Impact	Access to recreation facilities is improved at locations of proposed turn lanes. The extension of guardrail at the Swan Creek and Jack Smith bridges would eliminate access to two turnouts used unofficially for access to the Gallatin River.	No Mitigation
Construction Impacts	No Impacts	Could temporarily impact travel patterns and convenience along US 191. Fire and law enforcement response could be delayed as well as school buses and vehicles dropping off and picking up students at Ophir School.	Would include early notification of community service agencies, about construction activities in order to address potential construction impacts. The contractor would coordinate with emergency service providers and schools as necessary regarding the construction traffic management plan and would provide ongoing information during construction.

Table S.2 Summary of Impacts (continued)

Topic Area	No-Build Alternative	Preferred Alternative	Mitigation for Preferred Alternative
Right-of-way and Relocations			
Additional ROW	No Impact	0.54 ha (1.32 ac)	<p>In order to minimize impacts to the commercial property northwest of the West Fork Gallatin River Bridge, guardrail was incorporated into the design to reduce the right-of-way required for the proposed improvements. As a result, the parking capacity of the commercial property would not be impacted by the proposed project.</p> <p>Right-of-way acquisition for this project would be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646 as amended), (42 U.S.C. 4601, et. Seq.) and the Uniform Relocations Act Amendments of 1987 (P.L. 100-17).</p>
Relocations	No Impact	No relocations	No Mitigation
Construction Impacts	No Impact	Construction easements for grading, temporary access, or temporary construction staging would be needed from property owners and public agencies along the corridor.	Easements from private property owners would be obtained according to the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (cited above) to provide just compensation for and rehabilitation of temporary construction easements.
Utilities			
Electric and Communication Facilities	No Impact	Utility relocations may be needed.	Utility relocations would be coordinated with the utility owners prior to construction.
Construction Impacts	No Impact	Local communities may experience temporary disruption to utility service for water, sanitary, electric, communications, and gas service during construction.	Temporary disruptions would be minimized through coordination with utility owners.

Table S.2 Summary of Impacts (continued)

Topic Area	No-Build Alternative	Preferred Alternative	Mitigation for Preferred Alternative
Visual Resources			
Roadway User	No Impact	<p>Minimal impact to the visual character of the corridor.</p> <p>Would cause minor visual impacts at the West Fork Gallatin Bridge in the Big Sky Area because the new bridge would be more than double the existing width and at least 50 percent longer in order to accommodate the proposed improvements. These impacts would be experienced by those on or near the roadway as well as recreational users of the river.</p>	<p>No Mitigation</p> <p>At the West Fork Gallatin Bridge, mitigation would include appropriate aesthetic treatments to the bridge such as form liners to provide a texture to the outside of the concrete bridge barrier rails. Although these measures would improve the appearance of the bridge, the visual impacts of the increased size cannot be mitigated.</p>
Recreational User	No Impact	<p>Installation of slope stabilization structures at the Red Cliff, Big Sky, Karst Ranch, Swan Creek, Greek Creek, and Storm Castle Creek/Castle Rock Inn Areas would alter visual appearance of the riverbanks and be observable by river users.</p>	<p>The mitigation required to address visual impacts related to the installation of slope stabilization structures would be dependent on the type of structure that is proposed. The need to incorporate aesthetic treatments to the design of these structures would be determined during final design and appropriate mitigation measures would be taken, if necessary, in consideration of recreational users.</p>
		<p>Tree removal may result in minimal degraded visual character at the Swan Creek Area, Greek Creek Campgrounds, the Red Cliff Campgrounds and the picnic area at the Red Cliff Campgrounds.</p>	<p>MDT has coordinated with the GNF regarding potential visual impacts to recreational and other sites due to tree removal. Once the final construction limits have been determined, MDT would stake the construction limits and mark the trees, which are within the clear zone. Once the construction limits have been staked MDT would meet on site with USFS staff and identify which trees would be removed. USFS staff would mark trees beyond the clear zone that they feel should be either cut or trimmed to enhance the view shed of the area. This would prevent the project from appearing as a “clear cut” as tree removal would be “feathered” in to match the natural look of the area.</p>

Table S.2 Summary of Impacts (continued)

Topic Area	No-Build Alternative	Preferred Alternative	Mitigation for Preferred Alternative
Visual Resources (continued)			
Recreational User (cont.)			<p>In the Greek Creek Area, MDT would install guardrail instead of establishing a clear zone by removing trees. This measure would improve the safety for drivers without impacting the viewshed of the area.</p> <p>In the Swan Creek Area, MDT would participate in revegetation to mitigate for the impacts caused by the temporary detour. Revegetation efforts would include planting willows and possibly other saplings.</p>
Construction Impacts	No Impacts	Removal of existing vegetation from road slopes would be a large visual impact. New cut and fill slopes would be highly visible to users. Construction equipment highly visible.	See Vegetation Mitigation
Contaminated Sites / Hazardous Materials			
Underground Storage Tanks (USTs)	No Impact	There are 4 USTs adjacent to the proposed improvement areas and could be impacted if right-of-way is acquired at these locations.	These USTs would be relocated if necessary.
Construction Impacts	No Impact	<p>No contaminated soils were identified in the project area. However, if contaminated soils are encountered, ground disturbance from staging activities is generally shallow and would not be expected to have substantial effects on hazardous materials sites.</p> <p>Removal of bridges and pavement would result in construction debris.</p>	<p>If contaminated soils are encountered within or near the construction staging areas a remediation/reclamation plan would be developed, if needed, in consultation with the Montana Department of Environmental Quality (MDEQ).</p> <p>Construction debris from removal of bridges and pavement would be handled as per MDT's Standard Specifications for Road and Bridge Construction.</p>

Table S.2 Summary of Impacts (continued)

Topic Area	No-Build Alternative	Preferred Alternative	Mitigation for Preferred Alternative
Noise			
Construction Impacts	No Impact	Potential for temporary increases in noise levels due to construction	Consideration would be given to limiting certain types of construction after dark. However, limiting all construction to daylight hours is not feasible or practical and could result in delays to the construction schedule. Contractors would adhere to MDT specifications and local ordinances. Advance notice of construction would be provided to the GNF and area businesses and residences.
Floodplains			
Encroachment	Continued transverse encroachment at six locations. Continued longitudinal encroachment at Karst Ranch.	Continued transverse encroachment at the same six locations as the No-Build Alternative. Continued longitudinal encroachment in the Karst Ranch Area and new longitudinal encroachment in the Jack Smith Bridge Area. There is also the potential for encroachment in the Moose Creek Area, but no floodplain mapping exists for this area.	Impacts to the floodplain would be minimized by following standard stream crossing design criteria and avoiding direct impacts on stream channels whenever practicable. Measures under consideration to minimize harm to floodplains include slope stabilization structures and clear span bridges. To minimize impacts, design of this project would be in compliance with Federal-Aid Highway Program Manual (FHPM) 6-7-3-2 "Location and Hydraulic Design of Encroachments on Flood Plains" (also referenced as 23 CFR 650 A) and Executive Order 11988, Floodplain Management.
Flood surface elevations	No Impact	Would reduce flow velocities and scour potential over existing conditions at the West Fork Gallatin and Swan Creek bridges.	
Construction Impacts	No Impact	Temporary impact on functions	Coordination with the Gallatin Floodplain Administrator would be required to obtain a Floodplain Development Permit for locations where the floodplain has been delineated.

Table S.2 Summary of Impacts (continued)

Topic Area	No-Build Alternative	Preferred Alternative	Mitigation for Preferred Alternative
Water Quality			
Surface Water	No additional impact to the Gallatin River and the West Fork Gallatin River	Minimal additional impacts to Gallatin River and West Fork Gallatin River related to increased impervious surface area.	MDT would adhere to Best Management Practices (BMPs), develop an erosion control and sediment plan prepared in compliance with the Montana Pollutant Discharge Elimination System (MPDES) regulations and adhere to permit conditions in the Montana Stream Protection Act Permit (SPA 124) and COE 404 Permit.
Groundwater	No Impact	No Impact	No Mitigation
Private Septic Systems	No Impact	No information available	If septic systems are within the final right-of-way and are affected by the project, they would be relocated in accordance with MDT procedures.
Ground Water Wells	No Impact	No information available	If ground water wells are within the final right-of-way and are affected by the project, they would be relocated in accordance with MDT procedures.
Construction Impacts	No Impact	Construction impacts could increase erosion and stormwater runoff.	MDT would prepare a SWPPP that includes the identification of BMPs to control erosion and stormwater runoff and comply with permit requirements.
Water Body Modifications			
Water Body Modifications	No Impact	At this level of design, channel modifications have not been identified. New or replaced culverts may impact fish passage.	All work would be performed in accordance with state and federal guidelines regarding water quality and permit conditions. Culverts would be designed to accommodate fish passage to the extent practicable.
Construction Impacts	No Impact	The area at or near each bridge may be impacted by construction activities.	MDT would incorporate a SWPPP and BMPs in the proposed construction projects. Disturbed stream banks would be revegetated to reduce erosion. The construction contractor would be required to follow all state and federal guidelines regarding water quality.

Table S.2 Summary of Impacts (continued)

Topic Area	No-Build Alternative	Preferred Alternative	Mitigation for Preferred Alternative
Wetlands			
Jurisdictional	No Impact	<p>0.58 ha (1.45 ac) directly impacted after incorporating avoidance and minimization measures into initial design.</p> <p>Minimal indirect impacts resulting from sedimentation, degradation of water quality, increased water temperature, increase in non-native plant species, and hydrologic modifications.</p>	<p>Slope stabilization structures, such as retaining walls, would be considered to minimize fill into wetlands and waters of the U.S. (Gallatin River). MDT would coordinate with the COE and the USFWS during the Section 404 permit review process. If it is determined that there are no possible mitigation options on-site, MDT would use an off-site mitigation area. One mitigation site option is the Jack Creek Ranch near Ennis, Montana in the Madison River drainage area of the Upper Missouri Watershed approximately 32 air-km (20 air-km) west of the Gallatin Canyon project area. The project would comply with the permit conditions.</p> <p>Ground disturbance would be minimized and disturbed areas would be reclaimed and revegetated utilizing MDT standard specifications.</p>
Non-Jurisdictional	No non-jurisdictional wetlands were identified in the corridor	No non-jurisdictional wetlands were identified in the corridor	No Mitigation
Construction Impacts	No Impact	Potential for increased sedimentation, erosion, and introduction of pollutants. Wetland N would be impacted by a temporary detour route that would be necessary to maintain traffic during the replacement of the Swan Creek Bridge.	MDT would comply with the COE 404 permit. MDT would incorporate a SWPPP and BMPs into construction projects. Temporary impacts to wetlands would be restored in accordance with MDT standard specification or permit conditions.

Table S.2 Summary of Impacts (continued)

Topic Area	No-Build Alternative	Preferred Alternative	Mitigation for Preferred Alternative
Vegetation			
Montana Species of Concern	No Impact	No Impact	No Mitigation Necessary
Vegetation and noxious weeds	No Impact	Minimal direct impacts as compared to the availability of similar vegetation that would remain throughout the project corridor.	<p>Disturbed areas within MDT right-of-way or construction easements would be reclaimed and revegetated utilizing MDT standard specifications. The Contractor would coordinate with the Gallatin County Weed District to ensure compliance with the Gallatin County Weed Plan. The following mitigation measures would be taken on NFSL to prevent the introduction or spread of noxious weeds:</p> <ul style="list-style-type: none"> • Workers would park their vehicles in weed-free areas that are identified with flagging or signs. • All of the contractor's heavy equipment would be washed prior to entering and leaving the work area. • Reseeding of disturbed areas within MDT right-of-way or construction easements on NFSL would be done with seed mixes reviewed by MDT agronomist and the Forest Service and certified as weed-free. • Weed suppression would be completed prior to construction and then following construction for a period of up to three years in disturbed areas within MDT right-of-way or construction easements.

Table S.2 Summary of Impacts (continued)

Topic Area	No-Build Alternative	Preferred Alternative	Mitigation for Preferred Alternative
Vegetation (continued)			
Tree Removal	No Impact	Under the Build Alternative, there would be no substantial effects to vegetation. The loss of vegetation would be minimal compared to the availability of similar vegetation that would remain throughout the project corridor. Tree removal would occur at six of the improvement areas (Red Cliff, Moose Creek, Swan Creek, Storm Castle Creek/Castle Rock Inn, and Spanish Creek) to accommodate safety improvements. The precise number and location of trees to be removed would be determined during final design.	MDT would continue to coordinate with the GNF regarding the potential removal of trees near recreational and other sites in the project corridor. Early coordination between GNF and MDT staff has resulted in a number of mitigation measures intended to minimize the impact to vegetation in the project corridor. These measures are discussed in Section 3.3.5, Visual Resources.
Construction Impacts	No Impact	<p>Temporary vegetation loss and modification of vegetation communities from fuel spills and soil compaction as a result of construction access and activities.</p> <p>Ground disturbance could increase potential for noxious weeds.</p>	<p>Disturbed areas within MDT right-of-way or construction easements would be reclaimed and revegetated utilizing MDT standard specifications.</p> <p>To reduce the spread of noxious weeds at open water or wetland sites during construction, the contractor would comply with relevant permit conditions that may require cleaning equipment (power wash with soap) prior to leaving or entering the project corridor to preclude the transfer of seeds into other areas.</p>

Table S.2 Summary of Impacts (continued)

Topic Area	No-Build Alternative	Preferred Alternative	Mitigation for Preferred Alternative
Wildlife			
Montana Species of Concern	No Impact	See Construction Impacts	See Construction Mitigation
Wildlife	<p>Existing conditions with bighorn sheep mortality due to vehicles would continue.</p> <p>Continued mortality of bighorn sheep between MT 64 and Karst Ranch</p>	<p>Potential impacts to habitat.</p> <p>Continued mortality of bighorn sheep between MT 64 and Karst Ranch</p>	<p>Removal of habitat would be minimized or avoided to the greatest extent practicable. The opportunity to enhance wildlife movement at the new bridge locations would be addressed by the proposed clear span structures at West Fork Gallatin River and Swan Creek crossings. The new structures would be longer than the existing structures, thereby maintaining and improving the opportunity for wildlife movement at these locations.</p> <p>The necessity for bighorn sheep crossing signs with yellow caution lights between MT 64 and Karst Ranch to alert drivers to the potential for bighorn sheep on the roadway would be investigated with MFWP. If warranted, MDT would complete this installation under a maintenance contract.</p>
Construction Impacts	No Impact	<p>Could contribute to survivorship of species, such as amphibians, that rely on water bodies.</p> <p>Some brief temporary displacement of wildlife populations may occur during construction. Use of loud equipment or explosives near ungulate winter range during the Spring (March - May) could impact bighorn sheep, moose and elk, which are particularly vulnerable during this time of the year.</p>	<p>BMPs would be incorporated into construction projects to minimize water quality impacts.</p> <p>To minimize the potential for construction related impacts to bighorn sheep, moose and elk, timing restrictions during the spring for construction activities and/or blasting within one mile of ungulate winter range would be considered by MDT based on recommendations from the GNF and MFWP.</p>

Table S.2 Summary of Impacts (continued)

Topic Area	No-Build Alternative	Preferred Alternative	Mitigation for Preferred Alternative
Wildlife (continued)			
Construction Impacts (cont.)		<p>Potential for disturbance to Peregrine falcons (a Montana Species of Concern) during nesting period due to blasting or use of aircraft during construction.</p> <p>Power lines may be constructed or modified</p> <p>Potential for impact during construction to migratory bird species if bridges, trees, shrubs or other woody vegetation occupied by active bird nests are removed.</p>	<p>If necessary, a special provision would be included in the bid package to address construction activities within one mile of a known raptor nest during the spring. The GNF has specifically identified active falcon and eagle nest locations and the necessary spring timing restrictions to MDT for these purposes.</p> <p>If power lines are constructed or modified, they would be raptor-proofed in accordance with MDT policies.</p> <p>MDT would stake the construction limits prior to initiating any construction activity that would result in the potential removal of trees. All trees to be removed would be flagged and the removal of such trees would be coordinated on-site with the GNF. A special provision would be included in the bid package to address this issue.</p> <p>The GNF would provide any known locations of active nests prior to construction. If necessary, a special provision regarding the protection of actively nesting birds would be included in the bid package.</p>
Fisheries			
Fisheries	No Impact	Potential minor impacts to aquatic species from impacts to water quality due to increase impervious area, removal of riparian vegetation, and changes in peak/base flows.	During final design, MDT would assess clear span bridge structures at Swan Creek and West Fork Gallatin. Riprap would be minimized.

Table S.2 Summary of Impacts (continued)

Topic Area	No-Build Alternative	Preferred Alternative	Mitigation for Preferred Alternative
Fisheries (continued)			
Construction Impacts	No Impact	<p>Potential disruption of rainbow, brown and Westslope cutthroat trout spawning period in Swan Creek and West Fork Gallatin during in-stream work associated with bridge replacements.</p> <p>Potential temporary adverse effects due to habitat disruption, blockage of fish passages, and increase in sediment and turbidity levels.</p>	<p>Compliance with water quality permits; SPA 124 and COE 404 permit conditions including any timing restrictions on in stream work as a provision of the SPA 124 Permit.</p> <p>BMPs, a SWPPP, and erosion control measures would be installed and maintained throughout construction.</p> <p>Fill of any kind into the Gallatin River or its tributaries would be minimized.</p> <p>Fish passage would be maintained during construction activities.</p>
Threatened and Endangered Species			
Bald eagle	No Impact	May affect, but is not likely to adversely affect bald eagles.	See Construction Mitigation
Canada lynx	No Impact	May affect, but is not likely to adversely affect Canada lynx.	See Construction Mitigation
Fluvial Arctic grayling	No Impact	May affect, but is not likely to jeopardize the continued existence of the reintroduced population of the fluvial Arctic grayling.	No Mitigation Necessary
Gray wolf	No Impact	May affect, but is not likely to adversely affect gray wolves.	See Construction Mitigation
Grizzly bear	No Impact	May affect, but is not likely to adversely affect grizzly bears.	See Construction Mitigation

Table S.2 Summary of Impacts (continued)

Topic Area	No-Build Alternative	Preferred Alternative	Mitigation for Preferred Alternative
Threatened and Endangered Species (continued)			
Construction Impacts	No Impact	<p>Temporary displacement of bald eagles due to noise and visual disturbance.</p> <p>Removal of riparian habitat that may be used as foraging habitat or movement corridors for bald eagles, lynx, grizzly bears and gray wolves.</p> <p>Possible fish mortality and temporary displacement of Fluvial Arctic grayling individuals if present due to sedimentation as a result of work in and near water bodies.</p> <p>Human activities at construction sites and construction personnel camping sites could attract bears.</p>	<p>The GNF would provide MDT with the location of any known bald eagle nests within one mile of the project corridor. If necessary, a special provision regarding the protection of actively nesting birds would be included in the bid package.</p> <p>If power lines are constructed or modified, they would be raptor-proofed according to MDT policies.</p> <p>Re-planting or supplemental planting of riparian vegetation.</p> <p>BMPs and erosion control measures would be installed and maintained throughout construction. Conditions of the Montana Stream Protection Act (SPA 124) Permit would be adhered to.</p> <p>A special provision would be included in the bid package to address the minimization of the potential to attract bears and other wildlife to the project area during construction.</p>
Air Quality			
Construction Impacts	No Impact	Temporary construction impacts would include short-term increases in fugitive dust and mobile source emissions from construction equipment and traffic delays.	Contractors would be required to adhere to all state and local regulations and to BMPs to minimize fugitive dust and mobile source emissions. To minimize the amount of additional vehicle emissions, a construction traffic control plan would be developed to limit disruption to traffic.

Permits

Required permits and approvals include, but are not limited to, the list below and must be obtained prior to any construction:

- Section 402/Montana Pollutant Discharge Elimination System (MPDES) authorization from MDEQ Permitting and Compliance Division. The MPDES permit requires a storm water pollution prevention plan that includes a temporary erosion and sediment control plan. The erosion and sediment control plan identifies BMPs, as well as site-specific measures to minimize erosion and prevent eroded sediment from leaving the work zone.
- Clean Water Act (CWA) Section 404 permit from the US Army Corps of Engineers (COE) for any activities that may result in the discharge or placement of dredged or fill materials in waters of the US, including wetlands.
- 124 SPA Permit from the MFWP-Fisheries Division. The SPA permit is required for projects that may affect the bed or banks of any stream in Montana.
- Short-Term Water Quality Standard for Turbidity related to construction activity (318 Authorization) from the MDEQ-Water Quality Bureau for any activities that may cause unavoidable violations of state surface water quality standards for turbidity, total dissolved solids or temperature.
- For the improvement areas where the 100-year floodplain has been delineated and construction encroaches on the 100-year floodplain, a Montana Floodplain and Floodway Management Act Floodplain Development Permit from Gallatin County Planning Department would be required.

Conclusion

After consideration of the purpose of the project to improve safety and roadway deficiencies, and analysis of expected environmental impacts, the Build Alternative was selected as the Preferred Alternative to best meet the purpose and need for the proposed project. This alternative would improve the safety of the US 191 corridor by providing lanes for deceleration, storage, and turn initiation, wider shoulders, flatter side slopes, improved clear zone, improved sight distance and improved or new guardrail at ten locations throughout the corridor.

1.0 PURPOSE AND NEED

1.1 PROJECT DESCRIPTION / BACKGROUND

1.1.1 Project Location

The proposed safety project is located in southwestern Montana on National Highway (NH) Route 50/US 191 in Gallatin County. As shown in Figure 1.1, the project area begins just north of the Yellowstone National Park boundary and ends 8.9 kilometers (km) (5.5 miles [mi]) south of the town of Gallatin Gateway. The southern project limit is at MP 32 and the northern project limit is at MP 70. The proposed safety improvements are located at ten sites along the US 191 corridor within these project limits (Figure 1.2).

The project limits, or termini, were selected for two reasons. The southern limit at MP 32 falls just north of the Yellowstone National Park boundary. MDT is not responsible for roads within National Park Service (NPS) boundaries. The northern limit at MP 70 corresponds roughly with a major terrain change where the US 191 comes out of Gallatin Canyon. North of this point, the safety concerns that this project addresses are not an issue.

1.1.2 Project Description

US 191 is a two-lane road, which winds through a narrow canyon roughly parallel to the Gallatin River. The current roadway was constructed under three projects in 1955, 1960 and 1967 and has 3.6 m (12 ft) travel lanes, 0.8 m (2 ft) shoulders, no turn lanes, and substandard guardrails and sideslopes in some locations.

US 191 connects the City of Bozeman to Yellowstone National Park and provides access to the Big Sky community, two public ski areas, and numerous trailheads, campgrounds, and recreation areas in the Gallatin National Forest (GNF). US 191 also provides general access to the Gallatin River for fishing, kayaking, and rafting, and is part of the National Highway System (NHS) serving a variety of needs, including commercial truck traffic as well as local and tourist traffic. The corridor also serves pedestrians and bicyclists, primarily in the Big Sky area. The safety issues resulting from this mix of highway uses and varying traffic speeds in the project corridor are further exacerbated by the limited sight distances on curves, adverse winter driving conditions, and high occurrence of wildlife in the corridor.

The Gallatin Canyon Slope Flattening/Widening project corridor is 61.2 km (38 mi) long and the net length of construction within the corridor is 9.7 km (6.0 mi). Aside from 8 km (5 mi) at the northern end of the project limit, the project corridor is within United States Forest Service (USFS) boundaries. Proposed improvements include turn lanes, slope flattening, shoulder widening, clear zone improvements, improved site distance, new and upgraded guardrail and two bridge replacements. The ten improvement locations are shown in Figure 1.2.

Figure 1.1 Project Area Map

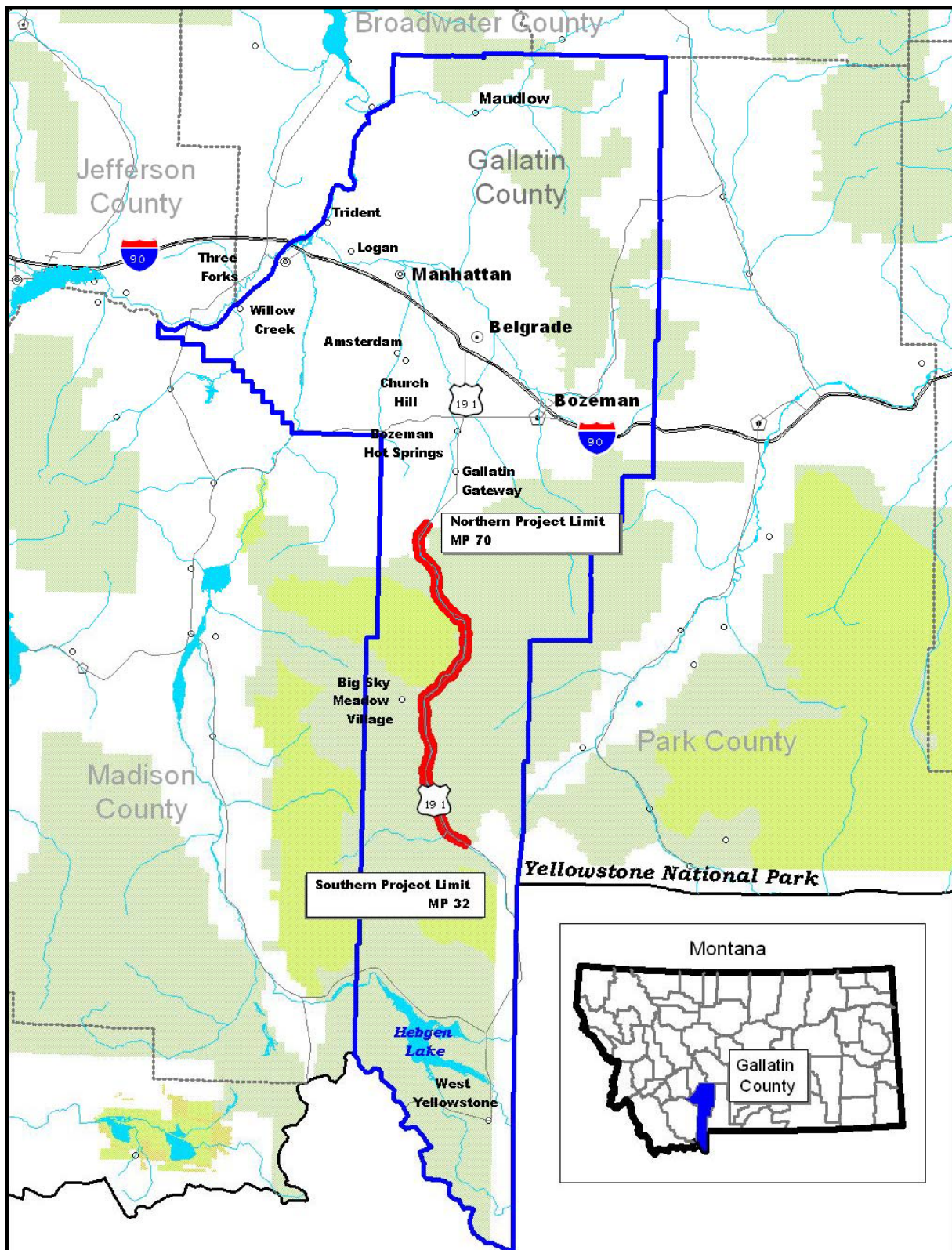
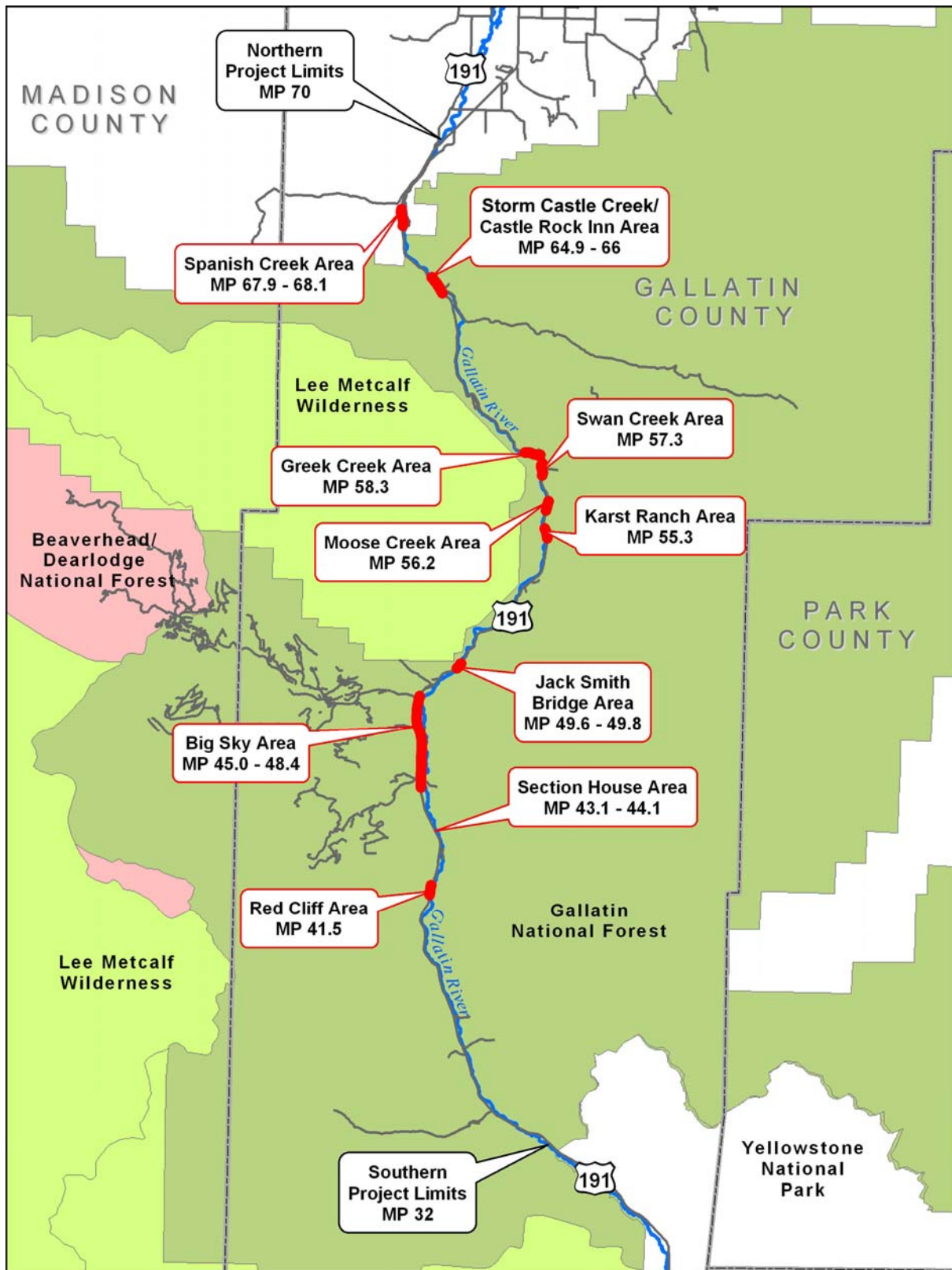


Figure 1.2 Proposed Safety Improvement Locations



1.1.3 Project History

The Montana Department of Transportation initiated a safety improvement project for US 191 in 1996 in response to analysis of crash data collected from January 1, 1984 through December 31, 1994. This data identified a total of 726 crashes in the US 191 corridor. There were 17 fatal crashes resulting in 26 fatalities and 26 injuries. There were 277 injury crashes resulting in 423 injuries, and there were 432 property damage-only crashes.

Safety improvements were proposed in three phases, this being the second phase. The first phase of the project involved installation of new signs, upgrades to existing signs, installation of new guardrail, upgrades to existing guardrail, continuous snowpole delineation, and epoxy striping. Since the first phase was completed in 1998, the crash rate in the corridor dropped from 2.17 (1984 – 1994) to 1.74 (1998 – 2000).

The second phase, which is being assessed in this document, proposes specific safety improvements at ten locations in the corridor. These improvements include the addition of turn lanes, slope flattening, widening of shoulders, improvement of clear zone, improving sight distance, and upgrade and addition of guardrail. MDT hosted two public meetings prior to design and construction of the second phase to obtain public input concerning safety issues in the corridor and specific locations of concern.

Safety improvements that were proposed for the third phase included the installation of several passing lanes in the canyon. MDT received negative feedback from the public regarding the installation of passing lanes. Concerns revolved around the potential for increased traffic speeds through the canyon as a result of installing passing lanes. MDT is reconsidering the third phase of the project due to this public opposition.

1.2 PURPOSE OF THE PROPOSED ACTION

The purpose of the proposed Gallatin Canyon Slope Flattening/Widening project is to provide a transportation facility that improves the safety of travel on US 191 between MP 32 and MP 70. Safety can be enhanced by improvements at specific high accident locations in the corridor. These safety improvements include adding turn lanes, flattening side slopes, widening shoulders, improving clear zone, improving sight distance, upgrading guardrail and replacing bridges. The project corridor is illustrated in Figure 1.1.

1.3 NEED FOR THE PROPOSED ACTION

1.3.1 Need to Improve Safety

The crash rate in the project corridor is 34 percent higher than the statewide average for similar types of roadways and the rate for crashes involving trucks is 84 percent higher than the statewide average. Several accident clusters have been identified based on the criteria from the Safety Engineering Improvement Program (SEIP) and the information from the Safety Management System. The locations of the proposed improvements have all been identified as high accident locations. The two-mile stretch of road north and south of MT 64 (the Big Sky turn off) has experienced a concentration of multiple vehicle accidents over the last 20 years.

The lack of turn lanes to access the previously mentioned residential, commercial, and recreational facilities in the corridor results in vehicles slowed and/or stopped in the roadway while attempting to initiate left and right turns. This situation, as evidenced by MDT's crash analysis and input from users of the corridor, causes off-road crashes. As mentioned previously, the limited sight distances on

curves, adverse winter driving conditions, and high occurrence of wildlife in the corridor exacerbate this problem.

Turn lanes are proposed at the locations specified in Table 2.1 in order to remove turning vehicles from the travel lanes by providing deceleration and storage lanes for these maneuvers.

1.3.2 Need to Improve Roadway Deficiencies

There are two primary roadway deficiencies that compromise the safety of the existing roadway: steep side slopes and narrow shoulders. The cut slopes and fill slopes at some points in the corridor are steeper than 3:1 and generally exist within the roadside clear zone. These slopes are defined as critical slopes. Errant vehicles that encounter these steep slopes have little chance of traversing them safely, which can result in overturning (rollover) crashes. The roadside clear zone is defined as the total roadside border area, starting at the edge of the traveled way that is available for safe use by errant vehicles. The area may consist of a shoulder, a recoverable slope, a non-recoverable slope, and/or a recovery area. The desired width is dependent upon the traffic volumes and speeds, and on the roadside geometry. The recovery area is a hazard free zone beyond the toe of a non-recoverable slope, which has a minimum width of 3.0 m (9.8 ft) and a slope of 4:1 or flatter. Review of the existing roadside border area throughout the surveyed project corridor has shown a high instance of cut and fill slopes that are critical in nature and slope flattening has been given a high priority by MDT.

In addition, the shoulders are 0.8 m (2 ft) wide, which does not allow much room for driver error, especially when roads are icy. These roadway deficiencies have resulted in off-road and overturning crashes, as discussed in section 3.2.3.

To address the problem of off-road and overturning crashes, the proposed project includes flattening of roadside slopes to 6:1, at the locations indicated in Table 2.1, modification of cut slopes to improve clear zone, improving existing guardrail to MDT standards and adding new guardrail as needed. Adding new guardrail to shield critical slopes would be considered only when no other options exist. Barriers are not preferable to a hazard free roadside due to their unyielding structure and close proximity to the traveled way. The project also includes widening the existing shoulders to 1.2 m (4 ft) at each area where improvements are proposed.

2.0 ALTERNATIVES

2.1 DEVELOPMENT OF ALTERNATIVES

The Build Alternative was developed by MDT to improve safety in the project corridor by making improvements at specific locations. MDT discussed the transportation needs of the corridor during two public meetings, as documented in Appendix C. Input from these meetings was considered in developing the Build Alternative.

The No-Build and Build Alternatives for the proposed project are described and evaluated in this Environmental Assessment (EA). The No-Build Alternative is required to be considered in accordance with the National Environmental Policy Act (NEPA).

2.2 NO-BUILD ALTERNATIVE

Under the No-Build Alternative, existing conditions in the project corridor would remain. There would be no improvements to the corridor other than ongoing regular maintenance. The characteristics of the corridor as they are today would be perpetuated and are described in this section.

The current roadway is a two-lane rural highway with 3.6 m (12) ft travel lanes and 0.8 m (2 ft) shoulders for a total paved width of 8.8 m (28 ft). The project corridor provides access to residential and commercial sites as well as several recreational areas in the Gallatin National Forest including campgrounds, trailheads, and the Gallatin River. There are currently no turn lanes in the project corridor to access these areas. The existing corridor has narrow shoulders and substandard guardrails and steep sideslopes alongside the roadway at a number of locations. The only area with a formal bike path is between MT 64 and Ophir School in the Big Sky Area.

2.3 BUILD ALTERNATIVE

The Build Alternative for the proposed project corridor (MP 32 – MP 70) is described below. Within the corridor, there are ten proposed safety improvement areas. Proposed improvements include turn lanes, slope flattening, widening of shoulders, improving clear zone, improving sight distance, new and extended guardrail and two bridge replacements. The locations of these safety improvements are summarized in Table 2.1, and shown on the resource maps in Appendix A.

The preliminary cost estimate for the proposed project is approximately \$10 to \$12 million, which includes construction and right-of-way acquisition.

Table 2.1 Proposed Safety Improvements and Locations

Site	Milepost (MP)	Proposed Improvement
Red Cliff Area	41.5	<ul style="list-style-type: none"> • Left turn lane (southbound) • Widen shoulders on both sides • Upgrade/new guardrail on east side
Section House Area	43.1 – 44.1	<ul style="list-style-type: none"> • Slope flattening on both sides • Upgrade guardrail on both sides
Big Sky Area	45.0 – 48.4	<ul style="list-style-type: none"> • Roadway reconstruction • Bring curve up to standards for super elevation • Two-way left turn lane • Four right turn lanes (southbound) • Widen shoulders on both sides • Bridge replacement at West Fork Gallatin River • Upgrade/new guardrail on both sides
Jack Smith Bridge Area	49.6 – 49.8	<ul style="list-style-type: none"> • Slope flattening on both sides • Upgrade guardrail on both sides
Karst Ranch Area	55.3	<ul style="list-style-type: none"> • Left turn lane (northbound) • Widen shoulders on both sides • Upgrade/new guardrail (southbound)
Moose Creek Area	56.2	<ul style="list-style-type: none"> • Left turn lane (northbound) • Widen shoulders on both sides • Upgrade guardrail (southbound)
Swan Creek Area	57.3	<ul style="list-style-type: none"> • Left turn lane (southbound) • Widen shoulders on both sides • Bridge replacement at Swan Creek • Upgrade/new guardrail on both sides
Greek Creek Area	58.3	<ul style="list-style-type: none"> • Opposing left turn lanes • Widen shoulders on both sides • Upgrade/new guardrail (southbound)
Storm Castle Creek/ Castle Rock Inn Area	64.9 - 66	<ul style="list-style-type: none"> • 2 left turn lanes • Slope flattening (northbound) • Widen shoulders on both sides • New guardrail (northbound)
Spanish Creek Area	67.9 – 68.1	<ul style="list-style-type: none"> • Widen shoulders on both sides • Upgrade guardrail (northbound)

2.3.1 Turn Lanes

Left turn lanes, opposing left turn lanes, and a two-way left turn lane are proposed at eight locations (in seven of the improvement areas), and right turn lanes are proposed at four locations (in the Big Sky Area), as described in Table 2.1. Opposing left turn lanes, as shown in Figure 2.1, are proposed in the Greek Creek Area to access the Greek Creek campsites that exist on both sides of US 191. A continuous two-way left turn lane, as shown in Figure 2.2, is proposed in the Big Sky Area to improve access to the residential, commercial, recreation, and public facilities in that area.

Figure 2.1 Schematic of Opposing Left Turn Lanes

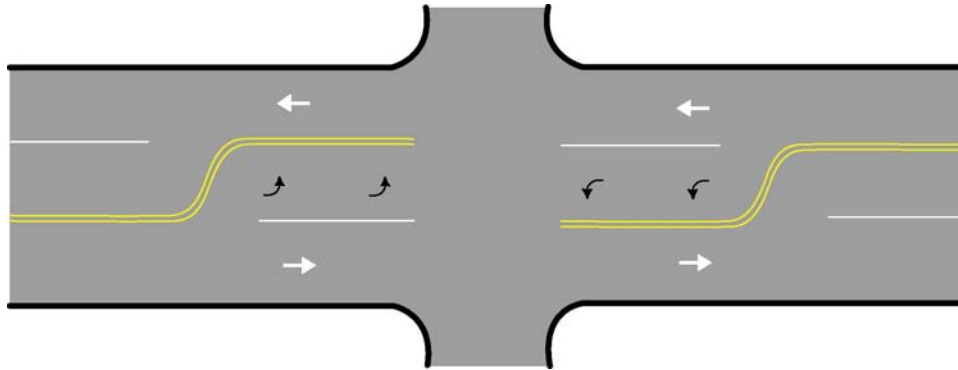
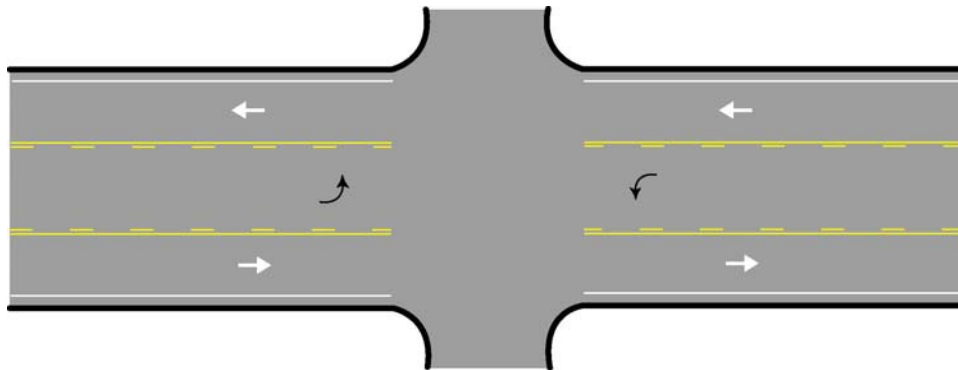


Figure 2.2 Schematic of Two-Way Left Turn Lane



All turn lanes would be 3.6 m (12 ft) wide except for the two-way left turn lane proposed in the Big Sky area, which would be 4.2 m (13.8 ft) wide. Roadway width would also be increased to include 1.2 m (4 ft) paved shoulders. Construction for turn lanes would involve pavement reconstruction (pulverizing the existing pavement and laying new pavement) and widening the roadway at the turn lanes.

2.3.2 Slope Flattening

Side slope flattening is proposed at six locations (in four improvement areas) as described in Table 2.1. Slope flattening would address safety issues at locations of off-road and overturning crashes, which are largely attributable to a lack of vehicle recovery area. Standard fill slopes would be used except in areas where the river is close. In those areas, guardrails and slope stabilization structures would be used as needed to provide required width while staying out of the river. Widths would

generally be increased to include a 1.2 m (4 ft) paved shoulder and a 3.8 m (12.5 ft) unpaved (crushed aggregate) slope area of 6:1.

2.3.3 Bridges

Two bridges would be replaced to accommodate the addition of turn lanes. The first bridge is over the West Fork Gallatin River north of the intersection with MT 64 at MP 48.0 in the Big Sky Area. The existing bridge is a three-span, cast in place, concrete bridge measuring 16.5 m (54.1 ft) long with a roadway width of 9.1 m (30 ft). The new bridge over the West Fork Gallatin River is proposed to be a clear span bridge with a new centerline very close to the existing alignment. The proposed bridge would be approximately 27 m (88.6 ft) long and 23.4 m (76.8 ft) wide with two travel lanes, a right turn bay, a two-way left turn lane, a shoulder on each side and a multi-use path along the west side that would connect with the existing multi-use path south of the bridge. The separation between the multi-use path and the turn bay would be provided by a jersey barrier. The new bridge would be built in phases to maintain traffic during construction, which would likely require two construction seasons for completion.

The second bridge is over Swan Creek at MP 57.3 in the Swan Creek Area. The current bridge is a three span, cast in place, concrete bridge measuring 16.5 m (54.1 ft) long with a roadway width of 9.1 m (29.9 ft). The proposed bridge would be approximately 23m (75.5 ft) long with a roadway width of 15.6 m (51.2 ft) including two travel lanes with a shoulder on both sides of the bridge. A clear span bridge is proposed for this structure, which would likely be completed in one construction season.

2.3.4 Other Improvements

Existing guardrail in the improvement areas would be upgraded to current MDT standards and new guardrail would be added at all locations where slope stabilization structures are proposed. In addition, guardrail would be added at various locations within the proposed improvement areas as deemed necessary for the safety of the traveling public. No additional guardrail is planned outside of current project improvement locations.

All new and upgraded guardrails in the project corridor would be w-beam. This type of guardrail derives its name from the general cross-sectional shape of the beam (the rail). The w-beam system with heavy posts is a semi-rigid system with a deflection distance of 1.2 m (3.9 ft). In general, this guardrail system is the preferred system for freeways and high-volume, non-freeway facilities. A major objective of the heavy post system is to prevent vehicles from "snagging" on the posts. This is achieved by using "blockouts" to offset the posts from the longitudinal beam and by establishing 1.9 m (6.2 ft) as the maximum allowable post spacing. The beam is approximately 0.35 m (1.15 ft) tall, and the top of the beam is set 0.68 m (2.2 ft) above the ground surface. This allows for approximately 0.33 m (1.1 ft) of space between the ground surface and the beam.

2.3.5 Selection of Preferred Alternative

After consideration of the purpose and need of the project to improve safety, the Build Alternative was selected as the Preferred Alternative for the proposed project. The proposed build alternative improves safety of travel on US 191 between MP 32 and MP 70 by implementing safety improvements and improving roadway deficiencies at ten locations along the US 191 corridor. The Build Alternative would achieve the purpose and need, while minimizing impacts in the corridor. The No-Build Alternative does not improve safety along the corridor, and therefore, does not meet the purpose and need of the project.

2.3.6 Alternatives Considered But Eliminated

The following alternatives were not carried forward for detailed analysis in this EA because they (1) did not meet the primary project purpose and need to improve safety, (2) caused more environmental impacts than a similar alternative, (3) were beyond the scope of this project, or (4) were determined to be cost prohibitive.

Outside of the project limits

- Little Bear Acceleration Lane:
The location where the Little Bear Acceleration Lane was requested is several miles north of the project limits. This suggestion was in respect to another project, which has already been completed.

Storm Castle Creek/Castle Rock Inn Area

- Move the centerline to the southwest:
This alternative was eliminated because it would not meet MDT standards and would not greatly improve safety.

Big Sky Area

- Separated bike trail from Highway 64 (MP 47.9) to Dudley Creek (MP 48.7):
The addition of pedestrian facilities north of the West Fork Gallatin Bridge (MP 48), would not serve to improve the safety of the US 191 corridor, and therefore does not meet the project purpose and need.
- Traffic Signal at Highway 64:
The traffic volumes on Highway 64 would not warrant a traffic signal.
- Tunnel between the Highway 64 and Beckman Flats:
This alternative would be cost prohibitive.

General Corridor

- Passing Lanes:
Passing lanes were originally proposed as the third phase of the Gallatin Canyon safety improvements, but based on public concern, MDT is reconsidering these improvements. At public meetings held before the start of the first phase, the public expressed concerns that speeds might increase as a result of the installation of passing lanes.
- Expand turnouts to create safe areas for slower traffic to pull off and sign turnouts for slower moving traffic:
To do additional work with the turnouts would involve additional right-of-way and would encroach on the Gallatin River. This is beyond the scope of this second phase of the project.
- Wider shoulders (5 –8 ft):
Additional shoulder widening was not included for several reasons:
 - Safety projects are limited to the amount of work required to address the safety concern. In this case, 1.2 m (4 ft) shoulders were deemed adequate.
 - Additional right-of-way and impacts to the Gallatin River, wetlands, and other resources would occur due to the wider roadway section.
 - Tying in with the existing roadway on the ends of each of the spot improvement sections would be more difficult with the wider roadway section. Driver expectation would be compromised by having very wide segments of road interspersed with long segments of road with minimal shoulders.
 - Additional costs associated with the wider section are beyond the project budget.

3.0 AFFECTED ENVIRONMENT AND IMPACTS

This chapter describes existing conditions in the Gallatin Canyon corridor between the southern project limit, MP 36, and the northern project limit, MP 70, of National Highway (NH) Route 50/US 191. This section also describes the potential impacts of the proposed Gallatin Canyon safety improvements. The existing conditions provide the baseline of information to assist with the assessment of impacts associated with the proposed safety improvements.

Guidance provided by the National Environmental Policy Act (NEPA, 42 U.S.C. 4332 (2)(c)), Montana Environmental Policy Act (MEPA, 2-3-104 and 75-1-201 M.C.A.), MDT and the Federal Highway Administration (FHWA) Technical Advisory T6640.8A identify subject areas requiring analysis. The following subjects have been identified and are documented in this chapter:

Affected Environment with No Impacts

- Cultural Resources
- Energy
- Environmental Justice
- Farmlands
- Local and Regional Economics
- Noise
- Wild and Scenic Rivers
- Air Quality
- Section 4(f) Properties
- Parks and Recreation/NL&WCF – Section 6(f)

Effects on the Transportation System

- Access
- Traffic
- Safety
- Pedestrians and Bicycles

Effects on the Community

- Land Use
- Community Resources
- Right-of-Way and Relocations
- Utilities
- Visual Resources
- Contaminated Sites/Hazardous Materials

Effects on the Natural and Physical Environment

- Floodplains (E.O. 11988)
- Water Resources/Quality
- Water Body Modification
- Wetlands
- Vegetation
- Wildlife
- Fisheries
- Threatened and Endangered Species

Construction impacts as well as cumulative and secondary impacts of the proposed safety improvements are also discussed.

3.1 AFFECTED ENVIRONMENT WITH NO IMPACTS

Cultural/Archaeological/Historical Resources

In 1999, MDT performed a cultural resources inventory for the proposed project in compliance with federal guidelines, including Section 106 and 110 of the National Historic Preservation Act (NHPA), 36 CFR 800 (Axline 1999). The inventory was conducted to identify resources listed on or eligible for listing on the National Register of Historic Places (NRHP) that are in the study area of the proposed project.

Most of the project area had been previously investigated for cultural resources, and a file search conducted during the inventory revealed 44 previously recorded cultural resource sites located within or near the proposed project area. However, none of these sites is eligible for or listed on the NRHP.

Two locations that had not been previously evaluated were documented in the 1999 MDT survey. These sites included the Moose Creek Campground at MP 56.2 where a left turn lane is proposed, and the Jack Smith Bridge just south of the Gallatin River between MP 49.6 and 49.8 where slope flattening is proposed. The cultural resource inventory at these locations consisted of file review and intensive pedestrian survey at 2 to 6 m (6.5 to 19.6 ft) transects. Neither location was determined to have any NRHP-eligible historic or archaeological sites. The Montana State Historic Preservation Office (SHPO) concurred with the survey's conclusions that there are no NRHP-eligible properties within the Gallatin Canyon project area (see Appendix B, Agency Correspondence for SHPO concurrence). Therefore, there would be no impacts to cultural resources under the No-Build or the Build Alternative of the proposed project.

Energy

Fuel consumption is a function of traffic characteristics including traffic flow, driver behavior, highway geometrics, vehicle fleet, and climate. The proposed improvements may have a negligible benefit and would not contribute to any negative effects on energy.

Environmental Justice

Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice to Minority Populations and Low-Income Populations*, directs federal agencies to consider impacts to minority and low-income populations as part of environmental analyses to ensure that federally-funded projects do not result in "disproportionately high and adverse human health or environmental effects" on these populations. FHWA issued a guidance document that establishes policies and procedures for complying with EO 12898 (FHWA 1998). This guidance defines a "disproportionately high and adverse effect" as one that is predominately borne by, suffered by, or that is appreciably more severe or greater in magnitude on minority and/or low-income populations than the adverse effect that would be suffered by the non-minority population and/or the non-low-income population.

There are no readily identifiable minority or low-income populations within the project area. Therefore, environmental justice impact analysis and mitigation are not required for this project.

Farmlands

The Farmland Protection Policy Act (FPPA - 7 U.S.C. 4201, *et. seq.*), requires the examination of effects of proposed highway projects prior to the acquisition of farmland. Pursuant to the FPPA, an inventory of farmland in the study area was completed.

Within the project corridor, the Spanish Creek Area is the only portion of the project where the USDA Natural Resources Conservation Service (NRCS) has identified important farmland. As shown on Sheet 5 of the Environmental Overview maps in Appendix A, farmland of statewide importance exists approximately 250 m (820 ft) north and 350-m (1,148-ft) west of the Spanish Creek site. However, proposed improvements in this area would not impact the soils or impede existing farm operations. The NRCS has identified no important farmland in the vicinity of the remaining proposed improvement sites.

In proximity to the proposed improvements, there is no important farmland as defined by the NRCS. Therefore, there would be no impacts as a result of either alternative. In accordance with the FPPA, a Farmland Conversion Impact Rating form (#AD-1006) would not be necessary for this project and no mitigation would be required.

Local and Regional Economics

Once constructed, the proposed project would improve access to business properties off of US 191 and would not permanently impede access to any business property. No relocations of residences or businesses are anticipated for the proposed project.

Noise

The proposed project is not a Type 1 project, as defined in 23 CFR 772. A Type 1 project is defined as one that adds travel lanes, significantly changes the horizontal or vertical alignment, or builds a new road on a new location. A noise analysis is not required on projects that are not Type 1. However, traffic volumes for the proposed project are expected to more than double over the next 20 years and there are a number of recreational resources along the corridor that could be impacted. For this reason, a preliminary traffic noise assessment for the Gallatin Canyon project was conducted to assess impacts related to potential Section 4(f) properties located along the project corridor. The Gallatin Canyon Noise Technical Memorandum (March 2004) concluded that no noise level increases would occur as a result of the proposed improvement projects.

Wild and Scenic Rivers

No Wild and Scenic Rivers have been identified within the vicinity of the proposed improvements. Therefore, no impacts to Wild and Scenic Rivers would occur due to the proposed project.

Air Quality

The proposed project is located in an unclassified/attainment area of Montana for air quality under 40 Code of the Federal Regulations CFR 81.327, as amended. As such, the proposed alternatives are not covered under the U.S. Environmental Protection Agency's (EPA) "Final Rule" of November 24, 1993 on Air Quality Conformity. Therefore, both the No-Build and the Build Alternatives would comply with Section 176(c) of the Clean Air Act (53 U.S.C. 7521 (a), as amended.

Section 4(f) Properties

Title 23 of the Code of Federal Regulations 771.135 Section 4(f) (49 USC 303) of the U.S. Department of Transportation Act states that “the Administration may not approve the use of land from a significant publicly owned public park, recreation area, or wildlife and waterfowl refuge or any significant historic site unless a determination is made that:

1. there is no feasible and prudent alternative to the use of land from the property; and
2. the action includes all possible planning to minimize harm to the property resulting from such use.”

A preliminary evaluation of the applicability of the provisions cited above was assessed for the proposed project. Numerous recreation areas/facilities and one wildlife management area, which could be considered Section 4(f) resources, were identified in the project corridor (Appendix D). Approximately half (16) of these facilities are located in close proximity to the proposed improvement areas (see maps in Appendix A). The remaining 17 were not evaluated in detail, as they are not in proximity to the improvement areas and would not be affected by the project. There are no historic sites (listed or eligible for the NRHP) identified near the proposed project improvements.

Each of the potential 4(f) resources located in close proximity to the proposed improvement areas were evaluated to verify applicability as a 4(f) resource and determine if any use (physical, temporary, or constructive) would occur. Based on the preliminary right-of-way plans, all sites are located outside the proposed right-of-way, therefore, no physical use of any 4(f) property would occur as a result of the proposed project. In addition, no construction activity would occur on these sites, therefore, no temporary impacts are expected.

Finally, no constructive use would occur as a result of the proposed improvements. The preliminary noise analysis indicated that the proposed improvements would not result in noise impacts to any of the potential 4(f) resources in the project corridor. The visual assessment did conclude that impacts would occur at both the Red Cliff Picnic Area and the Greek Creek Campgrounds due to tree removal. This would not constitute a constructive use however, because these 4(f) resources are already located near the highway and experience degraded visual quality due to this proximity. No other offsite impacts (temporary or permanent) are expected as a result of the proposed improvements.

Parks and Recreation/NL&WCF – Section 6(f)

Section 6(f) resources are those acquired through the use of Land and Water Conservation Funds (LWCF). The LWCF (Public Law 88-578) was enacted by Congress to provide money to federal, state, and local governments to purchase lands for maintaining or enhancing recreational opportunities, clean water, wildlife habitat, scenic resources, historic sites, and wilderness areas (Land and Water Conservation Fund, 2003; U.S. Forest Service, 2003). Resources that have been purchased using LWCF cannot be converted to highway uses without the approval of the Department of Interior’s National Park Service (NPS). Section 6(f) directs the NPS to assure that replacement lands of equal value, location, and usefulness are provided to mitigate conversions of these lands for highway use.

No Section 6(f) National Land and Water Conservation Fund Act (16 USC 460) properties have been identified in the project corridor (see Appendix B, MFWP letter dated December 4, 2003).

MFWP did identify a property in the project corridor purchased with Federal Aid Funds from the Pittman Robertson Wildlife Restoration Act, which requires similar mitigation to Section 6(f). This property, the Gallatin Wildlife Management Area, is located adjacent to the Big Sky improvement area, but would not be impacted by the proposed project.

3.2 EFFECTS ON THE TRANSPORTATION SYSTEM

This section describes the existing conditions of the transportation system in the Gallatin Canyon corridor. The project corridor is limited to the areas between MP 32 and MP 70 of National Highway (NH) Route 50/US 191.

3.2.1 Access

US 191 connects the I-90 corridor near Bozeman and Belgrade to the unincorporated community of Gallatin Gateway and the City of West Yellowstone at the western entrance of Yellowstone National Park. US 191 is approximately 160 km (100 mi) long and the project corridor represents 61.2 km (38 mi) near the middle of this route. The project corridor consists of ten improvement locations along the US 191 corridor, most of which are within the boundaries of the Gallatin National Forest.

Although there are no incorporated cities within the project corridor, there are approximately 15 small residential subdivisions, numerous individual homesites, and three commercial service clusters. The project corridor also provides access to a variety of recreational facilities including ski areas, USFS campgrounds, hiking trails and picnic areas as well as general access to the Gallatin River for fishing, kayaking, and rafting.

There are approximately 80 access points to US 191 within the project corridor, none of which currently have turn lanes associated with them. This lack of turn lanes diminishes access to the facilities that exist along the corridor. Currently, drivers traveling on US 191 must decelerate in the traffic lane to initiate a right-hand or left-hand turn off of the roadway. The volume and speed of traffic on the corridor often creates dangerous and unnerving situations for drivers attempting these maneuvers. It is not uncommon to see drivers who are attempting to make a left turn off the roadway use the opposing traffic lane as a deceleration lane in order to avoid detaining or being rear-ended by other vehicles traveling behind them.

Turn lanes are proposed at seven of the ten improvement locations and would affect 32 existing access points along the corridor. These improvements are summarized in Table 3.1.

Table 3.1 Access Improvements

Improvement Location	Road Name	Traffic Direction	Proposed Improvement	Facilities Accessed
Red Cliff Area	FS 2432	Southbound	Left turn lane	<ul style="list-style-type: none"> Red Cliff Campground Red Cliff Picnic Area Elkhorn Trail
Big Sky Area	Porcupine Road	Southbound	Two-way left turn lane	<ul style="list-style-type: none"> Porcupine Creek Trail Porcupine Trail Hidden Lake Divide Trail First Lake Cutoff Trail
Big Sky Area	Beaver Creek Road	Northbound	Two-way left turn lane Right turn lane	<ul style="list-style-type: none"> Porcupine Park Subdivision Yellow Mule Trail
Big Sky Area	Windy Pass Trail	Northbound	Two-way left turn lane	<ul style="list-style-type: none"> Porcupine Park Subdivision
Big Sky Area	Riverview Lane	Northbound Southbound	Two-way left turn lane Right turn lane	<ul style="list-style-type: none"> Ramshorn View Estates Subdivision

Table 3.1 Access Improvements (continued)

Improvement Location	Road Name	Traffic Direction	Proposed Improvement	Facilities Accessed
Big Sky Area	Knight Court	Northbound	Two-way left turn lane	<ul style="list-style-type: none"> • Private Parcel
Big Sky Area	Anaconda Drive	Northbound	Two-way left turn lane	<ul style="list-style-type: none"> • Ramshorn View Estates Subdivision
Big Sky Area	Michener Creek Road	Northbound	Two-way left turn lane	<ul style="list-style-type: none"> • Big Sky Community
Big Sky Area	Driveways	6 Northbound 8 Southbound	Two-way left turn lane	<ul style="list-style-type: none"> • Bighorn Subdivision • Silver Horseshoe Ranch Subdivision • Ramshorn View Estates • Ophir School • Numerous private parcels
Big Sky Area	MT 64	Northbound Southbound	Two-way left turn lane Right turn lane	<ul style="list-style-type: none"> • Big Sky Center • Gas Station • Big Sky Community • Big Sky Resort • Beehive Basin Trail • Bear Basin Trail • Yellow Mule Trail
Big Sky Area	Dudley Creek Road	Northbound	Two-way left turn lane	<ul style="list-style-type: none"> • Dudley Creek Trail
Karst Ranch Area	Wild Flower Way	Northbound	Left turn lane	<ul style="list-style-type: none"> • Parkview West Subdivision • Asbestos Mine Trail
Moose Creek Area	FS 6689	Northbound	Left Turn lane	<ul style="list-style-type: none"> • Moose Creek Campground
Swan Creek Area	Swan Creek Road	Southbound	Left turn lane	<ul style="list-style-type: none"> • Swan Creek Campground • Swan Creek Trail • Lake of the Pines Trail • Pine Tree Swan Trail
Greek Creek Area	Greek Creek Road	Northbound and Southbound	Opposing left turn lanes	<ul style="list-style-type: none"> • Greek Creek Campgrounds – North and South
Storm Castle Creek / Castle Rock Inn Area	Squaw Creek Road	Southbound	Left turn lane	<ul style="list-style-type: none"> • Squaw Creek Forest Service Station • Gallatin Riverside Trail • Garnet Mountain Trail • Storm Castle Trail • Spire Rock Campground • Lime Creek Trail • Mica Creek Trail
Storm Castle Creek / Castle Rock Inn Area	Castle Rock Inn	Southbound	Left turn lane	<ul style="list-style-type: none"> • Castle Rock Inn

Impacts

No-Build Alternative

The No-Build Alternative would have no effect on access in the project area.

Build Alternative

The proposed improvements would not create or eliminate access points along the corridor, but two private accesses would be reconfigured as a result of the proposed project. In the Big Sky Area, the access to the commercial property northwest of the West Fork Gallatin Bridge would be rebuilt in order to accommodate the reconstruction of the bridge. The new access would be reconfigured near the existing access location.

In the Swan Creek Area, the access to a private cabin located east of US 191 and north of Swan Creek Road would be reconstructed in order to accommodate the temporary detour for the reconstruction of the Swan Creek Bridge. The new access for this cabin would be realigned onto Swan Creek Road to facilitate proper function of the proposed new southbound left turn lane that would serve Swan Creek Road.

The addition of turn lanes, as outlined in Table 3.1, would improve access to the commercial, residential, and recreational facilities at each of the proposed improvement areas by creating a specific lane for deceleration, storage, and turn initiation. In addition, the two-way left turn lane proposed for the Big Sky Area would provide an access lane for vehicles turning onto US 191 from the commercial, residential, and recreational facilities as well as the school located in that area; thereby improving access to the highway facility.

Mitigation

No mitigation required.

3.2.2 Traffic

MDT compiled traffic data for the project corridor, which has been provided in Table 3.2. MDT used an average annual growth rate of 3.5 percent to produce a traffic volume forecast for the design year (2026).

Table 3.2 Average Daily Traffic (ADT)

Year		ADT
	MP 36.0 – 47.9	MP 47.9 – 68.1
2003	3,200	4,640
2006	3,550	5,140
2026	7,060	10,230

Source: MDT Preliminary Transportation Planning, May 2004.

Impacts

No-Build Alternative

The No-Build Alternative would have no effect on traffic in the project area. Traffic would continue to queue at higher volume turns as the traffic stops in the travel lane waiting to turn left.

Build Alternative

The addition of turn lanes, as outlined in Table 3.2, would improve traffic flow by removing turning vehicles from the travel lanes and providing deceleration lanes for vehicles exiting the travel lanes. This increase in travel efficiency achieved by eliminating traffic queues can be a beneficial effect or “byproduct” of implementing the safety improvements.

Mitigation

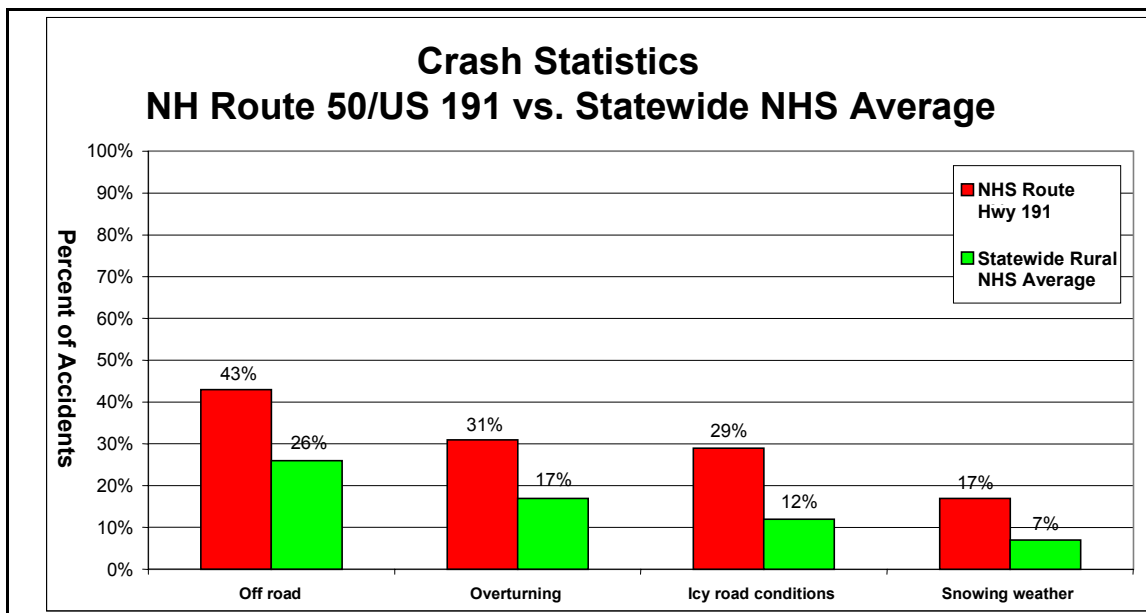
No mitigation required.

3.2.3 Safety

The safety of US 191 is of primary concern to local residents and MDT alike. As shown in Figure 3.1, crash rates in the project corridor are higher than average statewide crash rates for comparable rural NHS routes.

Figure 3.1 shows crash percentages for various categories of crashes including crashes in which a vehicle goes off the roadway or overturns, as well as crashes occurring during icy road conditions or snowing weather. These statistics are a direct reflection of the conditions in the project corridor. Off-road crashes could be attributed to a variety of factors including the narrow and winding roadway, icy conditions, and lack of guardrail. Overturning vehicles can also be related to narrow, winding roads as well as poor recovery areas.

**Figure 3.1 Crash Statistics of US 191 Compared to Statewide Average:
January 1, 1998 - December 31, 2000**



Source: The Montana Department of Transportation

As discussed in the preceding paragraph, both roadway geometrics and adverse weather conditions are contributing factors in the higher-than-average crash rates for the project corridor. Table 3.3 summarizes these rates for all vehicles and trucks only as compared with the statewide average for comparable rural NHS routes.

Table 3.3 Crash Rates of US 191 from January 1, 1998 through December 31, 2000

	Statewide Average for Rural State Primary	Project Corridor
All Vehicles Crash Rate	1.3	1.74
Truck Crash Rate	1.15	2.12

Source: Montana Department of Transportation.

Notes: Crash rates are defined as the number of crashes per million vehicle miles.

As shown in Table 3.3, the crash rate in the project corridor is 34 percent higher than the statewide average for similar types of roadways while the rate for crashes involving trucks is 84 percent higher than the statewide average. The fact that the average rate of crashes involving trucks is 84 percent higher in the project corridor than the statewide average can be explained by the increased stopping distance required for trucks. As shown in Table 3.4, the stopping distance for trucks is longer than for cars and this difference increases with speed. The primary type of crash in the corridor involves off-road vehicle crashes resulting from avoidance maneuvers when drivers encounter numerous turning vehicles slowed or stopped in the travel lane. Limited sight distances along the project corridor, as it winds through Gallatin Canyon, are not always sufficient for drivers (especially drivers of large commercial trucks) to avoid slow or stopped vehicles as they attempt to make left turns off the roadway. Adverse weather conditions in the project corridor during the winter months can amplify the severity of this situation. Blowing snow can impair visibility and icy road conditions can require four times the stopping distance of dry roads.

Table 3.4 Stopping Distances for Cars Versus Trucks

Speed kph (mph)	Stopping Distance meters (feet)		Percent Increase in Stopping Distance
	Cars	Trucks	
64 (40)	38 (124)	52 (169)	36%
89 (55)	69 (225)	102 (335)	49%
105 (65)	96 (316)	160 (525)	66%

Notes: Above estimates are for 80,000 lb., loaded tractor-trailers and mid-size passenger cars traveling on a dry, level road.

Source: National Safety Council's Defensive Driving Course for Professional Truck Drivers

Several accident clusters have been identified based on the criteria from the Safety Engineering Improvement Program (SEIP) and the information from the Safety Management System. The two-mile stretch of road north and south of MT 64 (the Big Sky turn off) has experienced a concentration of multiple vehicle accidents over the last 20 years. In 1992, the intersection of US 191 and MT 64 (Big Sky turnoff) was identified as an accident cluster location. The installation of signs and an overhead flasher was completed in November 1993 to improve safety at this intersection. The crash data displayed in Table 3.5 shows a 61 percent reduction in the number of crashes in the vicinity of that location during the 3-year period after those safety improvements were completed in 1993 as part of the first phase of safety improvements in the corridor.

Crash data compiled by MDT for the locations where turn bays are proposed is displayed in Table 3.5.

Table 3.5 Crashes at Proposed Turn Bay Locations Between 1984 and 2000

Milepost (MP)	Location	1984 – 1993	1994 – 1997	1998 - 2000
41.5	Red Cliff Campground	0	0	1
45.2	Beaver Ck Rd/Porcupine Ck Rd	1	0	0
46.5-48.4	Big Sky Area	31	12	3
55.3	Karst Ranch	2	0	1
56.2	Moose Creek Campground	0	1	0
57.3	Swan Creek Campground	0	2	3
58.3	Greek Creek Campground	2	0	1
65.2	Squaw Creek Campground	2	0	2
65.8	Castle Rock Inn	1	1	0

Source: Montana Department of Transportation.

Impacts

No-Build Alternative

The No-Build Alternative would have no effect on crashes in the project area. The current accident and severity rates, which are higher than the statewide average, would continue.

Build Alternative

The proposed improvements are designed specifically to improve the safety of the project corridor. The addition of right turn and left turn lanes would address the problem of rear-end and left turn collisions by providing deceleration lanes for vehicles exiting the travel lanes.

The addition of new guardrail and the upgrade of existing guardrail are designed to prevent vehicles from veering off of the roadway. Flattening the slopes along the sides of the roadway would improve the recovery area and reduce the number of off-road and overturning crashes. The widening of existing shoulders would further help to alleviate both of these problems. These improvements would improve the overall ease and safety of traveling in the project corridor.

Mitigation

No mitigation required.

3.2.4 Pedestrians and Bicycles

The only formal pedestrian facility along the project corridor is in the Big Sky Area. This consists of a separated multi-use path along the west side of the corridor between MT 64 and Ophir School. The path was constructed with Community Transportation Enhancement Program (CTEP) funds and Montana resort tax revenues and is currently in MDT right-of-way. The CTEP documentation (July 1995) on this facility indicates that the function of the path is to “offer an alternative route for non-motorized transportation accessible to bicycles, pedestrians, and the handicapped”. This path is considered a transportation facility and not a recreation facility and therefore is not a potential 4(f) property.

In other areas of the project corridor, bicyclists are required to share travel lanes with vehicular traffic. The existing shoulder widths (0.8m [2 ft]) and steep side slopes (greater than 3:1 in some locations) do not provide a safe location for bicyclists throughout most of the project corridor.

Impacts

No-Build Alternative

The No-Build Alternative would have no effect on pedestrian and bicycle facilities in the project area.

Build Alternative

The new bridge at the West Fork Gallatin River in the Big Sky area would include a multi-use path on the west side of the bridge that would connect to the existing path south of the bridge. This would improve pedestrian access between the commercial facilities on the north side of the bridge and MT 64 to Big Sky.

The multi-use path between MT 64 and Ophir School would be impacted to accommodate the additional roadway width required for the turn lanes and wider shoulders. The separation between the reconstructed bike path and the travel lanes may not be as wide as current conditions, but would be consistent with AASHTO standards.

Aside from the Big Sky Area, there is not enough pedestrian or bicycle traffic in the project corridor to warrant installation of sidewalks and/or bike lanes. As such, no other pedestrian or bicycle facilities are proposed, but highway improvements such as slope flattening and widening of the shoulders would improve the conditions for pedestrians and bicyclists in the corridor.

Mitigation

The multi-use path between MT 64 and Ophir School would be re-constructed.

3.3 EFFECTS ON THE COMMUNITY

This section describes existing social conditions in the Gallatin Canyon project corridor between MP 32 and MP 70 of National Highway (NH) Route 50/US 191. Resources affected by the project would include the businesses, communities, and land uses adjacent to and dependent on highway access, as well as the broader community of Gallatin County.

3.3.1 Land use

Established in 1863, Gallatin County is located in the southwest part of Montana and encompasses 6,750 sq. km (2,606 sq. mi.). Public versus private land ownership in Gallatin County is nearly half and half, with 52 percent owned by private entities and 48 percent in public ownership. The project corridor is in the southern portion of the County where public land ownership is dominant. The project corridor is rural in nature with no adjacent incorporated cities. The Big Sky community, which is unincorporated, is located west of US 191 at MT 64. Aside from the northern 8 km (5 mi) of the project limits, the project corridor is entirely within the Gallatin National Forest boundaries. Several USFS campgrounds, trailheads, and other recreation areas are present along the project corridor. Numerous private parcels and some state-owned parcels also exist within USFS boundaries along the project corridor. The Montana Department of Fish Wildlife and Parks (MFWP) owns several parcels along US 191 within the project corridor including the Gallatin Wildlife Management Area and the

Kirk Wildlife Refuge. MFWP also leases a small site referred to as the Gallatin Check Station. Private parcels consist of residential subdivisions, individual homesites, and service related commercial including lodging, gas stations, restaurants, and recreational guide services.

Private Land

Private land ownership in Gallatin County is concentrated in the northern portion of the county and is primarily used for agricultural purposes. According to the Montana Department of Revenue tax classification for 1999, 76 percent of private land is used for agricultural purposes including livestock, cropland, commercial forestry, and private ranches. Private land use in Gallatin County is governed by a variety of land use plans. Municipal land use or comprehensive plans govern the “urban” areas of Bozeman, Belgrade, Manhattan, Three Forks, and West Yellowstone, where approximately two-thirds of the county population lives. The remaining one-third of the population lives in unincorporated rural areas of the county. Because rural population growth has outpaced growth in incorporated areas in the last two decades, and is projected to continue, the proportion of population in rural areas is expected to increase despite county planning efforts to discourage this trend.

All new subdivision of land in Montana is regulated, even in unzoned areas. In the rural areas, there are 16 zoning districts, and the remainder of the county is unzoned. Land use permits are required for all zoned areas of the county. The Gallatin Canyon/Big Sky Planning and Zoning District is the only zoned area within the project corridor. This zoning area, which includes both public and private land, consists of an area on both sides of US 191 approximately between MP 41 and MP 55 in the Red Cliff Campground, Section House, Big Sky Area, Jack Smith Bridge, and Karst Ranch improvement areas. Most of the private commercial and residential development along the project corridor is within this zoning area. Land use in unzoned areas of Gallatin County, which includes the Moose Creek Area, the Swan Creek Area, the Greek Creek Area, the Storm Castle Creek Access/Castle Rock Inn Area, and the Spanish Creek Area, is directed by the Gallatin County Growth Policy. The Gallatin County Growth Policy was adopted in 2003 and replaced the County Plan originally adopted in 1993. While the Growth Policy does not require land use permits, it does provide guidance for future growth and land development in the unzoned areas of the County. Since 1988, Gallatin County Commissioners have rejected 10 planned developments on the basis of conflicts with the County Plan or Growth Policy.

Public Land

US Forest Service land accounts for the vast majority (83 percent) of public land in Gallatin County. The remaining public land ownership is roughly divided between the National Park Service (Yellowstone National Park) and state land, although some small parcels of Bureau of Land Management (BLM) and local government lands are also present.

US 191 is the primary public access for Gallatin National Forest. Land use planning within the forest is contained within the *Gallatin National Forest Land and Resource Management Plan* (Forest Plan), which was originally adopted in 1987 and has been periodically updated and amended. Three activities are currently planned or underway that relate to the proposed Gallatin Canyon project area. First, the USFS plans to move the forest access, currently located at Buffalo Horn Road, approximately 0.8 km (0.5 mi) to the north along US 191. The existing road would remain, but would only serve as access to the 320 Guest Ranch. The 320 Guest Ranch would continue to generate traffic associated with ranch business, but recreation traffic would be diverted to the new road. Second, GNF is currently revising its travel plan to direct public access and travel within the Forest. The Forest Service intends to finalize its travel plan in 2005 and incorporate it as an amendment to the Forest Plan. Finally, the USFS has designed and plans to construct a new bridge over the Upper Taylor Fork on Taylor Creek Road (MP 33.8) near the southern limit of the project corridor.

State lands in proximity to proposed safety improvements include the Gallatin Wildlife Management Area (GWMA), which parallels US 191 in the Big Sky Area. The GWMA consists of a total of 661 ha (1,634 ac) in six parcels. Five of these parcels are adjacent to each other and abut the east side of US 191 for 1.9 km (1.2 mi) between MP 45.4 and MP 46.6 in the Big Sky Area. The sixth parcel is located near MP 42 along the east side of the Gallatin River, north of Elkhorn Creek and south of the Red Cliff Campground. The GWMA was acquired by MFWP with the use of federal funds under the Pittman-Robertson Act, which provides Federal Aid to States in the form of formula grants (up to 75 percent of project costs) for management and restoration of wildlife and habitat.

MFWP manages two additional sites along US 191 in the project area. The Kirk Wildlife Refuge, a 17.4 ha (43.1 ac) site located north of the Spanish Creek Area (MP 69) along the Gallatin River, was acquired by MFWP for use as a fishing access site. The MFWP also leases a site called the Gallatin Check Station north of the Spanish Creek Area. Neither of these sites are adjacent to the proposed improvement areas.

Impacts

No-Build Alternative

The No-Build Alternative would not affect land use in the project corridor.

Build Alternative

Private Land Uses

Land from 15 private parcels in the Big Sky and Storm Castle Creek/Castle Rock Inn Areas would be converted to highway right-of-way. In all cases, the land area would be a linear strip adjacent to the existing highway right-of-way. The current land use of the parcel as a whole would not change as a result of the proposed improvements. As discussed in 3.2.1 Access, some beneficial effect would be expected due to improved access to residential and commercial properties in the project area.

County Land Uses

The proposed improvements in the Big Sky improvement area would convert 0.06 ha (0.15 ac) of land from the Ophir School District (District #72) to highway right-of-way. This land would be linear strip of land adjacent to the existing highway right-of-way and may impact the parking lot in front of the school. Coordination with the school district would be required.

There is no other County Land adjacent to the project corridor within the construction limits. The proposed safety improvements are consistent with the Gallatin County Growth Policy and with County zoning. Access to recreational amenities from the residential and commercial “centers” within the county is an underlying goal of the Gallatin County Growth Policy. Proposed improvements would occur along an established roadway and would improve access to recreational amenities in the area.

Gallatin Wildlife Management Area (State Lands)

The proposed safety improvements in the Big Sky Area would not require right-of-way from the Gallatin Wildlife Management Area and this land use would not change as a result of the proposed roadway improvements.

Gallatin National Forest (Federal Lands)

USFS land exists on both sides of most of the corridor. In the Karst Ranch improvement area, 0.02 ha (0.04 ac) would be converted to highway right-of-way to accommodate the proposed improvements. This land would be a linear strip along the existing highway right-of-way and the land use of the parcel as a whole would not change as a result of the improvements.

Because US 191 is the primary public access to GNF, travel management options within the forest could affect travel patterns on US 191 in the future. To ensure that the improvements for US 191 are consistent with the GNF plans, MDT would continue coordination efforts with the USFS regarding the following actions:

- Proposed amendments to the Forest Travel Management Plan (Draft Environmental Impact Statement (DEIS) released February 10, 2005)
- The new bridge on Taylor Creek Road (MP 33.8)
- The relocation of forest access from Buffalo Horn Ranch Road to a location 0.8 km (0.5 mi) north on US 191

Mitigation

MDT would coordinate with the GNF, MFWP, and USFWS (who administers the Federal Aid Program [Pittman-Robertson Act]) to discuss any concerns these agencies may have regarding the safety improvements.

MDT would coordinate with the USFS to ensure that planned improvements on US 191 are consistent with planned improvements on GNF lands, including the proposed 2005 amendments to the Forest Management Plan.

MDT would coordinate with the Ophir School District to discuss any concern the district may have regarding the safety improvements and right-of-way impacts.

3.3.2 Community Resources

General community characteristics, community and public facilities, and parks and recreational opportunities found in Gallatin County are described in this section. A summary of the effects the proposed project would have on these community resources is discussed. All demographic information presented in this section was taken from the 2000 U.S. Census unless otherwise noted.

Population

Gallatin County's 2000 population was 69,422. Between 1990 and 2000, Gallatin County grew nearly 35 percent, as compared with about 12 percent for the state as a whole. The County's population is currently growing at a rate of approximately 3 percent a year and is projected to be 116,000 by the year 2030 with the majority of growth occurring among adult-aged persons. This trend was already evident between 1990 and 2000 when the population under 18 years old (school age) dropped from 35 percent of the population to only 23 percent of the population.

The project area, which is rural in nature, has one primary population center located west of US 191 in the unincorporated community of Big Sky. Big Sky is largely a resort community of vacation homes and commercial rentals. The community has a full-time population of approximately 1,200 people and an additional 300 to 400 persons during the winter and summer months. Between 1990 and 2000, the census tract that encompasses much of the project area (from West Yellowstone to north of Big Sky)

grew in population by 47 percent. Population growth in the project area is likely to continue outpacing the rest of Montana, particularly with the development of the Moonlight Basin Ski Area in Big Sky.

Schools

The project area is within the Ophir and Gallatin Gateway K-8 school districts. The border between the two districts is near MP 64. The Ophir K-8 School is located in the Big Sky Improvement Area on the west side of US 191 near the intersection with Beaver Creek Road south of Big Sky and north of Beaver Creek. It had a 2004-2005 enrollment of 138 and is currently discussing a building expansion that would nearly double the size and capacity of the school. Five of the school's twenty bus stops are located along US 191, and the remainder are west off of MT 64. The US 191 stops are all north of the school, with two south of MT 64 and three north of MT 64 within the Big Sky Area. The southernmost stop is at Ramshorn Road and the northernmost is at the Yellowstone Raft Company.

The Gallatin Gateway K-8 School is located off US 191 about 12.9 km (8 mi) north of the Spanish Creek improvement area and south of the town of Gallatin Gateway at Cottontail Road. It had a 2004-2005 enrollment of 128. The school does not have any bus stops along US 191 in the project area.

Both public and private school systems provide educational services and infrastructure in Gallatin County. The project area is within the Bozeman High School District. Students living in the project area attend Bozeman High School or another private school in Bozeman. There are two high school bus stops within the project corridor along US 191. The first is located in the Conoco Gas Station parking lot directly south of the MT 64 intersection near MP 48. The second is located on Luhn Lane, which forms a small loop on the east side of US 191 south of MP 64.

Emergency Services

Fire. Gallatin County has three types of fire agencies: County Fire, Fire Districts, and Fire Service Areas. Currently, there are 13 Fire Districts and five Fire Service Areas in the County offering fire protection services. The County Fire Agency, which operates out of Belgrade, provides wildland fire protection to areas not covered by these other agencies. The Gallatin County Consolidated Rural Fire District operates out of two firehouses in Big Sky that provide fire fighting, paramedic, and ambulance services for the Big Sky community. The Gallatin County Consolidated Rural Fire District has one paid fire chief/paramedic and 32 volunteer fire fighters. The district responds to approximately 200 emergencies each year.

Wildfires are a growing concern in the project area, particularly with the increasing development in forested areas (i.e., the "urban/wildland interface"). The USFS staffs fire fighters in the Gallatin National Forest to fight wildfires from mid-May to mid-October. The Gallatin County Rural Fire District also responds to wildfires. In 1998, the Big Sky Fire Planning Steering Committee, a group of landowners and public agency officials, was formed to address fire management in the Big Sky area. The primary focuses of the steering committee are to improve fire safety and protection in the area and reduce risks and consequences of wildland fires.

Police. Law enforcement services provided by Gallatin County range from prosecutions to arrests and traffic control. Municipal law enforcement services near the southern end of the project area are provided by the city of West Yellowstone. At the northern end of the project area, the communities of Three Forks, Manhattan, Belgrade, and Bozeman have local law enforcement. Sheriff services in unincorporated areas are provided by Gallatin County, which is headquartered in Bozeman. Gallatin County Sheriff's Office and Fire Department also provides 911 Communication and Support Services for emergency safety and protective services.

Hospitals

Bozeman Deaconess Hospital in Bozeman is the only hospital in Gallatin County. Its primary service area includes Gallatin County and parts of Park and Madison Counties. The hospital provides inpatient and outpatient services, 24-hour emergency services, and advanced life support. Inpatient nursing services are available through the obstetrics/nursery units, medical unit, surgical unit, and intensive care unit (ICU). Emergency helicopters operate out of the hospital and can fly patients to Billings or Salt Lake area hospitals for more specialized medical services.

Big Sky has a new (1998) medical clinic located at the base of Mountain Village. This clinic is equipped to handle most medical problems for both visitors and residents of the Big Sky area. The Big Sky Fire Department also provides ambulance services for Big Sky.

Recreation Facilities

Gallatin County has abundant outdoor recreational amenities. Nearly half of all the land in Gallatin County is under public ownership, and public lands provide both winter and summer recreation activities, including skiing, snowmobiling, snowshoeing, hiking, mountain biking, horseback riding, fishing, wildlife viewing, and whitewater rafting.

In 2000, Gallatin County voters passed a \$10 million Gallatin County Open Space Bond for the purpose of purchasing lands and conservation easements to manage growth, preserve ranches and farms, protect wildlife habitat and water quality of streams and rivers, and provide parks and recreation areas for Gallatin County residents. To date, conservation easements for five properties representing a total of 1,666 acres have been purchased and placed into open space at a cost of more than \$3 million. (Federal, state, and private matching funds and donations supplement Gallatin County open space funds.) These properties are all located north of the project area.

The Gallatin River parallels US 191 throughout the project corridor. The river offers blue ribbon trout fishing and whitewater rafting. There are numerous informal fishing access sites and turnouts along US 191. Two universally accessible fishing platforms were constructed by the GNF (with financial contributions from private fishing organizations) at the Moose Creek Campground and Deer Creek Trailhead, north of Jack Smith Bridge and south of Karst Ranch. North of the project area, the Gallatin River is less accessible because it flows through private lands, although there are several official MFWP fishing access sites north of the project area along the river between the confluence with South Cottonwood Creek and the confluence with the Missouri River.

The two public ski resorts located near the project corridor include the Big Sky Resort and Moonlight Basin Ski Area. Access to the ski areas is off US 191 approximately 63 km (39 mi) south of Bozeman at MT 64 in the Big Sky improvement area. The developments are located 14.5 km (9 mi) west of US 191.

There are numerous USFS recreation areas within the project area, including five campgrounds, nine cabins, and nine trailheads directly accessed from US 191 within the project limits. The Red Cliff Campground is located 77 km (48 mi) south of Bozeman near MP 41.5. It consists of 63 camp sites, two group sites, four sites for picnicking, and seven bathroom facilities. The Moose Creek (Moose Flat) Campground is located 51 km (32 mi) south of Bozeman near MP 56.2. It has 12 campsites, two group sites, three picnic areas, and four bathrooms. Swan Creek Campground is just north of the Moose Creek Campground approximately 0.8 km (0.5 mi) east of US 191 near MP 57.3. It has 13 campsites and seven toilets. Greek Creek Campground is north of Moose Creek Campground near MP 58.3. It has 14 campsites and seven toilets. The Spire Rock Campground is located 42 km (26

mi) south of Bozeman and 3.2 km (2 mi) east of US 191 on Squaw Creek Road. It has 17 campsites, three group sites, and a bathroom facility.

Yellowstone National Park is located just south of the southern limit of the project corridor. Yellowstone is the nation's oldest and one of its most popular national parks, attracting 2.8 to 3.0 million visitors annually.

Impacts

No-Build Alternative

Under the No-Build Alternative, access to community facilities and recreation areas would be unchanged. Perpetuation of the current roadway conditions in the project corridor could exacerbate safety concerns and delay emergency response as traffic volumes increase in the project area. Increased traffic volumes would result in more frequent turning movements and deceleration for turning movements in the travel lanes along the corridor.

Build Alternative

Population

Improvements to US 191 are safety-related only and would not increase road capacity. Therefore, these improvements are not expected to impact the projected growth, which is likely to occur with or without roadway improvements.

Schools

The only school within the project area is the Ophir School, located at the southern end of the Big Sky improvement area. The school is currently undergoing expansion. The addition of both left and right turn lanes at the school turnout would improve safety for vehicles accessing the school.

There are seven school bus stops along US 191 within the project limits, two for Bozeman High School and five for Ophir School. Three of these fall within the construction limits of one of the improvement areas. The two Ophir School bus stops located south of MT 64 could be beneficially affected by shoulder widening in the Big Sky Area. Access would be maintained, and safe bus stops would be incorporated into the final design. The three Ophir School bus stops north of MT 64 are outside of the construction limits and would not be affected. The Bozeman High school bus stop at the Conoco station would not be affected by road improvements in the Big Sky Area and access would be maintained. The second Bozeman High school stop at Luhn Lane is outside the construction limits for the project.

Improvements in the Big Sky Area could temporarily impact travel patterns and convenience along US 191 for school buses and vehicles dropping off and picking up students at the school. These temporary impacts are discussed in the Construction Impacts section.

Emergency Services

US 191 provides the primary access from the project area to the main hospital in Bozeman. Shoulder widening at US 191 improvement locations would improve movements of emergency equipment through the corridor by providing additional area for cars to pull off and let emergency equipment pass.

US 191 improvements would not be likely to affect local fire fighting, law enforcement, and routine medical care in the Big Sky area, because their service area is limited to Big Sky.

In the short-term, fire response along the US 191 corridor, particularly wildfire response, could be delayed during the construction period. Similarly, law enforcement could also be delayed during construction. These impacts are discussed in Construction Impacts.

Recreation Facilities

The addition of left turn lanes would improve recreational access at the Red Cliff Area, the Moose Creek Area, the Swan Creek Area, and the Greek Creek Area. One USFS cabin (Garnet Mountain Lookout Cabin) in the project area is accessed from Squaw Creek Road, and improvements in this area would improve access to the cabin site. Access to recreational amenities in the Big Sky area would also be improved by the addition of a two-way left turn lane and right turn lanes at four locations.

Informal fishing access would generally improve along US 191 with the addition turn lanes. The fishing platform at Moose Creek Campground would not be adversely affected because it is outside the right-of-way for proposed improvements; access to this platform would be improved with the addition of a turn lane at this location. The fishing platform at Deer Creek Trailhead is not within an Improvement Area and would not be affected by the project.

Two informal turnouts used for access to the Gallatin River would be eliminated due to the extension of guardrail at the Swan Creek and Jack Smith bridges. These turnouts do not provide official access for fisherman and alternate access is available in the vicinity.

Mitigation

No mitigation required. See Section 3.5 for construction mitigation.

3.3.3 Right-of-Way and Relocations

The existing right-of-way through the project corridor is variable and ranges from 40 m (131 ft) to 120 m (394 ft). In some cases these widths include transportation right-of-way easements. The widest areas of transportation right-of-way and easements are in the Jack Smith Bridge and Big Sky Areas. In cases where the existing right-of-way is insufficient to accommodate the wider typical section of the proposed safety improvements, additional right-of-way would be acquired from property owners.

Impacts

No-Build Alternative

No additional right-of-way, easements, or building relocations or acquisitions would be needed for the No-Build Alternative.

Build Alternative

Additional right-of way and/or easements would be required from 17 parcels at three of the ten proposed improvement locations. This would include right-of-way from 15 private parcels in the Big Sky and Storm Castle Creek/Castle Rock Inn Areas and two public parcels in the Big Sky and Karst Ranch Areas. In the Karst Ranch Area, a small amount of land adjacent to the existing right-of-way would be required from the USFS.

In the Big Sky Area, the parcel directly northwest of the West Fork Gallatin River Bridge, would be impacted due to the implementation of the build alternative. This would include moving the sign associated with the businesses at this location. As discussed in Section 2.3.3, Bridges, the width of the existing bridge would more than double to accommodate the proposed improvements and the proximity of the Gallatin River on the east side of US 191 at this location prevents the alignment from being shifted to the east to minimize right-of-way impacts.

The Ophir School District parcel, further south in the Big Sky Area, would also be impacted by the proposed project. A small amount of land adjacent to the existing right-of-way would be required from the Ophir School District, which is part of the Gallatin County public schools. The parking lot for the school, which is adjacent to US 191, may be impacted.

Table 3.6 summarizes the approximate right-of-way impacts at each of the proposed improvement locations. No building relocations or acquisitions are anticipated as a result of the proposed project improvements.

Table 3.6 Potential Right-of-Way Impacts

Proposed Improvement Site	Additional Right-of-Way/Easements Hectares (Acres)	Impacted Parcels by Ownership
Red Cliff Area	--	Private: 0 Public: 0
Section House Area	--	Private: 0 Public: 0
Big Sky Area	0.47 ha (1.16 ac)	Private: 12 Public: 1
Jack Smith Bridge Area	--	Private: 0 Public: 0
Karst Ranch Area	0.02 ha (0.04 ac)	Private: 0 Public: 1
Moose Creek Area	--	Private: 0 Public: 0
Swan Creek Area	--	Private: 0 Public: 0
Greek Creek Area	--	Private: 0 Public: 0
Storm Castle Creek/ Castle Rock Inn Area	0.05 ha (0.12 ac)	Private: 3 Public: 0
Spanish Creek Area	--	Private: 0 Public: 0
Total	0.54 ha (1.32 ac)	Private: 15 Public: 2

Source: Montana Department of Transportation Right of Way Plans (February 3, 2004).

Mitigation

In order to minimize impacts to the commercial property northwest of the West Fork Gallatin River Bridge, guardrail was incorporated into the design to reduce the right-of-way required for the proposed improvements. As a result, the parking capacity of the commercial property would not be impacted by the proposed project.

The acquisition of land or improvements for highway construction is governed by state and federal laws and regulations designed to protect both landowners and the public. Affected landowners are entitled to receive fair market value for any land or buildings acquired and any damages as defined by law to remaining land due to the effects of highway construction. Right-of-way acquisition for this project would be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646 as amended), (42 U.S.C. 4601, et. Seq.) and the Uniform Relocations Act Amendments of 1987 (P.L. 100-17). No person shall be displaced by a federal aid project unless and until adequate replacement housing has been offered to all affected persons regardless of race, color, religion, sex or national origin.

3.3.4 Utilities

This section describes the parts of the utility system that lie within the project corridor. Additional utility information may be identified during design and would be incorporated into the final design. The following utility providers maintain active infrastructure within the project corridor.

Northwestern Energy (formerly Montana Power)

Northwestern Energy supplies electricity to the area throughout the project corridor. Power poles are located on the east and west sides of the existing highway throughout the length of the project corridor.

Qwest Communications and Three Rivers Communication

Qwest and Three Rivers have communications systems that run throughout the length of the project corridor.

Impacts

No-Build Alternative

No impacts to utilities would occur under the No-Build Alternative.

Build Alternative

Potential disruptions could occur for all utility systems in the corridor, except water mains and sewer systems, which are located deep below ground and outside the area of potential impact. Power poles; natural gas pipelines, valveing systems, and individual connections; stormwater systems; and communications systems could all be impacted by construction activities. However, utility relocations would be undertaken as needed, and users and systems should not be affected by any of the build alternatives.

Mitigation

All utilities would be located and utility relocations, if needed, would be coordinated with the utility companies prior to construction..

3.3.5 Visual Resources

There are two primary visual perspectives of this corridor: from or near the roadway and from the recreational areas such as the river or campgrounds. The existing visual conditions in the corridor and the potential visual impacts of the proposed safety improvements are discussed in this section and are based on these two perspectives.

The project corridor begins just north of the Yellowstone National Park boundary, and continues north through a narrow canyon roughly parallel to the Gallatin River. The northern terminus of the project corridor is located approximately 8.9 km (5.5 mi) south of the town of Gallatin Gateway. Figure 3.2 shows a typical view of the project corridor as it winds through the canyon along the Gallatin River.

Figure 3.2 US 191 at the Swan Creek Area Looking South



This narrow canyon is located between two distinct mountain ranges: the Gallatin Range to the east and the Madison Range to the west. These prominent mountain ranges contain ridges, steep, glacial stream cut valleys, and broad, sloping benches. Figure 3.3 shows some examples of these landscape features in the northern portion of the project area.

Figure 3.3 US 191 at the Castle Rock Inn Looking North



Foreground views in the corridor primarily consist of coniferous forests, grassland/shrubland, and riparian communities associated with the Gallatin River. There are also several residential/commercial clusters located throughout the corridor, the largest being in the Big Sky Area and the Section House Area. Numerous campground facilities are located on both sides of the highway. Middleground views feature both open valley floors dominated by grassland/shrubland vegetation, and steep canyon walls dominated by coniferous forests. Background views include views of the Gallatin and Madison mountain ranges to the east and west. Figure 3.4 shows commercial clusters along US 191 in the Section House Area, the surrounding coniferous forest, and the Madison Range in the distance.

Figure 3.4 US 191 at the Section House Area Looking South



The other visual perspective in this corridor is that of recreationalists staying at the campgrounds and/or using the river for fishing, rafting, or kayaking. Due to the proximity of US 191 to the USFS campgrounds and the Gallatin River throughout the project corridor, roadway structures such as bridges and guardrail, as well as vehicles traveling on the roadway, are visible from many of the campgrounds and the river. Currently, there are no retaining walls along the river within sight distance of the improvement areas. Figure 3.5 shows roadway structures and vehicles on US 191 as viewed from the Gallatin River at the confluence with Swan Creek.

Figure 3.5 Gallatin River at Swan Creek Confluence



Impacts

No-Build Alternative

There are no impacts under the No-Build Alternative because there are no physical changes to the corridor landscape.

Build Alternative

The proposed safety improvements are on the same alignment as the existing roadway and would have minimal impacts to the visual character of the project corridor. The addition of turn lanes, the widening of shoulders and the flattening of slopes along side the road would widen the footprint of the facility in specific locations, but would not alter the character of the area. The establishment of clear zone in some areas, upgrades to existing guardrail and the addition of some new guardrail would also have minimal effect on the visual character of the corridor. These types of proposed improvements could result in the removal of a small number of trees to improve the clear zone and/or site distance for drivers at six of the improvement areas. The improvement areas include a combination of MDT right-of-way and transportation easements granted by the USFS. The USFS owns the trees within the transportation easements. All of the potential tree removal would occur within these easements with the exception of the Swan Creek Area, which would extend beyond the easements into USFS land.

At the Red Cliff Campground and Picnic Area and the Greek Creek Campground, trees may be removed from between the campsites/picnic area and the roadway. These trees currently provide a visual buffer for the visitors staying at the campgrounds and using the picnic area. Removal of these trees would increase the exposure of the campsites and picnic area to the highway and traffic on US 191 and detract from the visual quality of the campground and picnic area surroundings.

In the Red Cliff Area, the picnic area is located east of US 191 between the roadway and the Gallatin River. The picnic area is within existing MDT right-of-way and approximately 9 m (30 ft) from the existing roadway. As shown in Figure 3.6, the picnic area currently receives some visual buffering from US 191 from the trees shown on the right side of the photo. These trees may be removed to accommodate a left turn lane and wider shoulders, thereby visually exposing the western side of the picnic area to the highway and traffic on US 191. If tree removal occurs, the proposed improvements would result in a minor adverse impact to the visual character of this picnic area because the picnic area itself would not be altered and most of the site would remain surrounded by trees.

Figure 3.6 Red Cliff Picnic Area Looking South



The campsites are east of US 191 between 75 and 200 m (250 and 650 ft) from the existing roadway on the opposite side of the Gallatin River. The campsites are set back in the trees approximately 25 to

60 m (80 to 200 ft) from the east bank of the river (right side of Figure 3.7). Campsites toward the north end of the campground are closer to the river, which affords them less of a visual buffer from US 191 than the campsites further south, which are set further back in the trees along the east bank of the river.

Figure 3.7 Red Cliff Area from the West Bank of the Gallatin River Looking North



Figure 3.7 is taken from the west bank of the Gallatin River just off the east side of US 191. The tree removal that may occur is between the existing roadway and the river (left half of Figure 3.7). As shown in Figure 3.8, the west bank trees (right side of the photo) currently shield the river and the campsites from clear view of the road.

Figure 3.8 US 191 at the Red Cliff Campground Access Looking North



Because the east bank trees also provide a visual buffer between the campsites and US 191, removal of some of the west bank trees would not result in direct exposure of the campsites to the roadway. Therefore, the visual impact to the campers would be minor.

In the Greek Creek Area, campsites exist on both sides of US 191 between 25 and 60 m (80 and 200 ft) of the existing roadway. Currently, trees line both sides of US 191 adjacent to the campground (Figures 3.9 and 3.10). Proposed improvements at this location include the construction of opposing left turn lanes to improve access to campgrounds on both sides of US 191 as well as widening shoulders and establishing a safe clear zone. MDT and GNF staff conducted a site visit to assess the potential impacts of the clearing and grubbing activities that would be required to establish clear zone. GNF staff indicated that this area was an important viewshed and that alternatives to tree removal should be considered. Removal of these trees would reduce or remove the visual buffer that currently shields the campsites from US 191 and could result in a degraded visual character of the campsite surroundings.

Figure 3.9 US 191 at the Entrance to the Greek Creek Campgrounds Looking North



Figure 3.10 US 191 at the Entrance to the Greek Creek Campgrounds Looking South



At the Swan Creek Area, a privately owned cabin exists approximately 110 m (360 ft) west of US 191 north of Swan Creek Road. GNF staff indicated that the cabin owner is very sensitive to tree removal and construction activities. The proposed improvements at this location include the installation of a left turn lane to improve access to Swan Creek Road as well as wider shoulder, new and upgraded guardrail and a bridge replacement at Swan Creek involving a temporary detour. These proposed activities would require the removal of some trees.

The other three sites include the Moose Creek Area, Storm Castle Creek/Castle Rock Inn Area, and the Spanish Creek Area. Any tree removal that may occur in these areas would have a negligible affect on the visual character because the trees that would be removed do not provide a visual buffer between the road and recreational sites or privately owned facilities.

The installation of slope stabilization structures at the Red Cliff Area, Big Sky Area, Karst Ranch Area, Swan Creek Area, Greek Creek Area, and Storm Castle Creek/Castle Rock Inn Area would alter the visual appearance of the river banks and would be observable by river users. These slope stabilization structures have not been designed yet but may range between 0.5 m (1.6 ft) to 2.5 m (8.2 ft) in height and 13 m (42.7 ft) to 340 m (1115.5 ft) in length.

The reconstruction of the bridge at West Fork Gallatin River would cause minor visual impacts because the new bridge would be more than double the existing width and at least 50 percent longer in order to accommodate the proposed improvements. These impacts would be experienced by those on or near the roadway as well as recreational users of the river.

Mitigation

The mitigation required to address visual impacts related to the installation of slope stabilization structures would be dependent on the type of structure that is proposed. The need to incorporate aesthetic treatments to the design of these structures would be determined during final design and appropriate mitigation measures would be taken, if necessary, in consideration of recreational users.

MDT has coordinated with the GNF regarding potential visual impacts to recreational and other sites due to tree removal. Once the final construction limits have been determined, MDT would stake the construction limits and mark the trees, which are within clear zone. Once the construction limits have been staked MDT would meet on site with USFS staff and identify which trees would be removed. USFS staff would mark trees beyond the clear zone that they feel should be either cut or trimmed to enhance the view shed of the area. This would prevent the project from appearing as a “clear cut” as tree removal would be “feathered” in to match the natural look of the area.

In the Greek Creek Area only, MDT would install guardrail instead of establishing a clear zone by removing trees. This measure would improve the safety for drivers without impacting the viewshed of the area.

In the Swan Creek Area only, MDT would minimize tree removal at Swan Creek Road and participate in revegetation to mitigate for the impacts caused by the temporary detour. Revegetation efforts would include planting willows and other saplings.

At the West Fork Gallatin Bridge, mitigation would include appropriate aesthetic treatments to the bridge such as form liners to provide a texture to the outside of the concrete bridge barrier rail. Although these measures would improve the appearance of the bridge, the visual impacts of the increased size cannot be mitigated.

3.3.6 Contaminated Sites / Hazardous Materials

An Initial Site Assessment (ISA) and Preliminary Site Investigation (PSI) of the Gallatin Canyon project corridor, completed in June 2003, determined that there are no specific hazardous materials concerns for the proposed project (Hyalite Environmental 2003). There are no Resource Conservation and Recovery Act (RCRA), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (i.e., Superfund), or Montana Comprehensive Environmental Cleanup and Responsibility Act (CECRA) facilities of concern in the vicinity of the proposed project. All leaking underground storage tank (LUST) sites that have been reported within 0.8 km (0.5 mi) have been resolved. There are four locations with registered underground storage tanks (UST) that are adjacent to proposed improvement areas (Table 3.7).

Table 3.7 Underground Storage Tanks Adjacent to Proposed Improvement Sites

Improvement Site	MP	UST Facility Name	Facility ID
Section House Area	MP 43.9	MDT Facility	16-04056
Big Sky Area	MP 47.9	Big Sky Conoco	16-03801
Big Sky Area	MP 47.5	Jasper's Big Sky Exxon	16-06923
Storm Castle Creek/ Castle Rock Inn Area	MP 65.8	Castle Rock Inn	16-03519

Source: Hazardous Materials and Water Quality Report (Hyalite Environmental, June 2003)

Note: Three additional sites were identified in the Report, but were subsequently found not to be directly adjacent to the proposed improvement areas.

Information regarding historic uses in the project corridor does not indicate hazardous materials were used, stored, or disposed in the project area. The two bridges that are proposed for replacement are concrete structures and unlikely to present hazardous material concerns. The Karst Asbestos Mine is located on Gallatin National Forest Land across the Gallatin River from US 191. It is a hazardous site regulated under Montana's Abandoned Mines program but is well outside of the construction limits for this project.

Impacts

No-Build Alternative

There would be no impact related to hazardous materials and/or contaminated sites under the No-build Alternative.

Build Alternative

No specific concerns have been identified from hazardous materials and/or contaminated sites for the proposed project. The four registered underground storage tanks (USTs) adjacent to the proposed improvement areas could be impacted if right-of-way is acquired at these locations. Underground propane tanks, which are not regulated by MDEQ, also may need to be located and added to project plans along with other utilities and tank piping. Additionally, there is potential to encounter unregistered or abandoned USTs (e.g., furnace fuel oil) in private developments. None of the issues associated with utilities, USTs, or construction debris is expected to create concerns for soil and/or groundwater contamination from hazardous materials.

Mitigation

The registered underground storage tanks that are adjacent to the proposed improvement areas would be relocated if necessary.

3.4 EFFECTS ON THE NATURAL AND PHYSICAL ENVIRONMENT

3.4.1 Floodplains (E.O. 11988)

Executive Order (EO) 11988 defines “floodplains” as lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands. These areas include, at a minimum, the area subject to a one percent or greater chance of flooding in a given year. EO 11988 and FHWA’s floodplain regulation (23 CFR 650, Subpart A) require an evaluation of the proposed project to determine if it would encroach on the “base” floodplain. The “base” floodplain is defined as the area covered by water from a “100-year” flood. The “100-year” flood represents an event, which has approximately a one percent (1%) chance of occurring in any year, or the probability of occurring once in a century. The Federal Emergency Management Agency (FEMA) has delineated approximate 100-year floodplain boundaries for only portions of the Gallatin River within Gallatin County. Within the project area, the Gallatin River and its tributaries have not been delineated by FEMA. Coordination with FEMA and Gallatin County staff confirmed that the project area falls entirely into a Zone D flood category, which denotes areas of undetermined, but possible flood hazards.

Although FEMA has not delineated floodplains in the study area, the USDA Natural Resources Conservation Service mapped floodways and floodplains for a portion of the study area in their 1996 Floodplain Management Study: Gallatin River at Big Sky. The available mapping from this study includes the Section House Area, Big Sky Area, Jack Smith Bridge Area, and the Karst Ranch Area. In the Section House, Jack Smith Bridge, and Karst Ranch Areas, the study indicates that the 100-year floodplain ranges between approximately 29 m (95 ft) and 156 m (515 ft) wide and is generally not much wider than the active stream channel. In the Big Sky Area the 100-year floodplain is somewhat wider, spreading out as much as 335 m (1100 ft) wide downstream of the confluence with West Fork Gallatin River.

Based on a review of the available NRCS mapping, the existing US 191 corridor encroaches longitudinally into the 100-year floodplain in one of the four improvement areas covered (Karst Ranch Area), and abuts the floodplain in numerous locations. US 191 transversely crosses the 100-year floodplain of the Gallatin River at several bridge locations throughout the corridor, three of which are within the project limits. These include crossings at MP 61, 49, and 32, none of which fall within the construction limits of any of the proposed improvement areas. US 191 also traverses nine tributaries to the Gallatin River within the project limits, six of which fall within the construction limits of the proposed improvement areas. These are listed below with the corresponding improvement area shown in parentheses.

- Beaver Creek (Big Sky Area)
- Michener Creek (Big Sky Area)
- West Fork Gallatin (Big Sky Area)
- Swan Creek (Swan Creek Area)
- Greek Creek (Greek Creek Area)
- Logger Creek (Storm Castle Creek/Castle Rock Inn Area)

Taylor Fork and Spanish Creek are also crossed by US 191, but do not fall within the construction limits of the proposed improvement areas.

Impacts

Impacts to the 100-year floodplain can occur in two forms: (1) directly through changes to the volumetric capacity of the floodplain (e.g., filling, bridges, piers) due to longitudinal or transverse encroachment or (2) indirectly through an increase in the total volume of water arriving at and being conveyed by the floodplain due to an increase in impervious surface area.

All of the proposed improvement areas are in close proximity to the Gallatin River and/or its tributaries. As such, the individual project sites may be within or in close proximity to the 100-year floodplain. The Gallatin River is adjacent to the project corridor on the east side at Red Cliff Area, Section House Area, Big Sky Area, Jack Smith Bridge Area, Storm Castle Creek/Castle Rock Inn Area, and Spanish Creek Area. It is adjacent to the project area on the west side at the Karst Ranch Area, Moose Creek Area, Swan Creek Area and Greek Creek Area.

The impact documentation in this section would be comprised of estimates and qualitative discussion only. This approach is necessary because FEMA has not delineated the 100-year floodplain within the study area. In addition, the floodplain mapping available from the NRCS only covers four of the improvement areas and is not sufficient to calculate specific floodplain impacts.

No-Build Alternative

Due to the roughly parallel alignment of US 191 to the Gallatin River, the potential for longitudinal floodplain encroachment exists throughout the project corridor. Based on a review of the NRCS floodplain mapping, US 191 encroaches longitudinally into the 100-year floodplain in one of the four improvement areas covered by the mapping (Karst Ranch Area), and abuts the floodplain in numerous locations. Longitudinal encroachments could not be determined in the remainder of the corridor due to lack of available information.

Transverse encroachment can be assessed with more accuracy because in cases of transverse encroachment, the US 191 corridor actually crosses the water body at more than a 30-degree angle. The transverse floodplain encroachment that would continue under the No-Build Alternative occurs at all three of the Gallatin River crossings as well as all nine of the Gallatin River tributary crossings within the project corridor. Six of these transverse encroachments, all at tributary crossings, occur within the proposed construction limits of the Build Alternative.

Build Alternative

Proposed improvements to US 191 would continue the existing transverse floodplain encroachment at six locations on tributaries of the Gallatin River. These are the same six encroachment locations as the No-Build Alternative. Because the proposed improvements are designed on the existing alignment, no new areas of transverse floodplain encroachment would occur.

Fill needed to accommodate additional roadway width could potentially impact the 100-year flood surface elevations both upstream and downstream of the project area. This type of impact is expected to be minimal because the amount of fill added to 100-year floodplains would not be substantial relative to the total volume the 100-year floodplain embodies.

Water surface profiles, using hydraulic modeling software, were completed for existing and proposed structures at Swan Creek and West Fork Gallatin by HKM Engineering, Inc. and are documented in the Bridge Replacement Hydraulic Studies report dated July 25, 2001. The report found that the proposed clear span replacement structures at each location would reduce flow velocities and scour

potential over existing conditions. The proposed structure at West Fork Gallatin River would provide 2 m (6.6 ft) of clearance above the 100-year flood water surface. The proposed structure at Swan Creek would provide 0.3 m (1 ft) of clearance above the 100-year floodwater surface. Both structures would result in improved hydraulic conditions and would be in compliance with Montana Statutes to ensure that the increases in water surface elevation from the base flood elevation is less than 0.15 m (0.5 ft).

MDT Hydraulics staff made the following determinations regarding potential floodplain impacts in the project area due to proposed improvements. These impacts do not include the floodplain effects due to the two bridge replacements discussed previously.

Red Cliff Area

The existing road grade is well above the base flood elevation and the existing floodplain conditions would be perpetuated.

Section House Area

The base flood elevation, which was determined in the 1996 NRCS Study, *Gallatin River at Big Sky*, was used to verify potential impacts. The proposed improvements are outside of the 100-year floodplain.

Big Sky Area

The base flood elevation, which was determined in the 1996 NRCS Study, *Gallatin River at Big Sky*, was used to verify potential impacts. The proposed improvements are outside of the 100-year floodplain.

Jack Smith Bridge Area

The proposed improvements would result in a longitudinal encroachment to the 100-year floodplain on the east side of the highway (adjacent to the Gallatin River), based on information in the 1996 NRCS Study.

Karst Ranch Area

The proposed design would perpetuate the longitudinal encroachment on the 100-year floodplain, based on information in the 1996 NRCS Study. The slope stabilization structure that is proposed at this location would prevent any additional encroachments.

Moose Creek Area

There is no existing floodplain mapping for this portion of the project. Longitudinal encroachment to the 100-year floodplain is possible at this location.

Swan Creek Area

There is no existing floodplain mapping for this portion of the project. Two slope stabilization structures are proposed along the west side of the highway (adjacent to the Gallatin River) to avoid placement of fill within the 100-year floodplain.

Greek Creek Area

There is no existing floodplain mapping for this portion of the project. Water surface profiles have been created to verify potential floodplain impacts. This includes an estimate of the base flood elevations for this section of the project. Two slope stabilization structures are proposed along the west side of the highway (adjacent to the Gallatin River) to avoid the placement of any additional fill in the 100-year floodplain.

Storm Castle Creek /Castle Rock Inn Area

There is no existing floodplain mapping for this portion of the project. However, the Gallatin River is very incised through this section of the canyon with the active channel several meters below the proposed roadway improvements. Four slope stabilization structures are proposed to reduce construction impacts and prevent embankment from spilling over the steep banks of the incised channel. The proposed improvements would have no effect on river hydraulics.

Spanish Creek Area

There is no existing floodplain mapping for this portion of the project. As noted above, the Gallatin River is very incised through this section of the canyon. Out of bank flow is not conceivable at this location. Fill slopes would be evaluated to prevent embankment from spilling over the steep banks of the incised channel. The proposed design would have no effect on the river hydraulics and associated floodplains.

With these proposed improvements as described above, little to no change to historic drainage patterns is expected within or down gradient from the project area.

Mitigation

All practical alternatives to minimize harm to floodplains would be incorporated in the build alternative including the use of slope stabilization structures as discussed. Impacts to the floodplain would be minimized by following standard stream crossing design criteria, avoiding direct impacts on stream channels whenever practicable. To minimize impacts, design of this project would be in compliance with Federal-Aid Highway Program Manual (FHPM) 6-7-3-2 “Location and Hydraulic Design of Encroachments on Flood Plains” (also referenced as 23 CFR 650 A) and Executive Order 11988, Floodplain Management.

As specified in the MDT Location Hydraulic Study Report dated August 21, 2003, coordination with the Gallatin Floodplain Administrator would be required to obtain a Floodplain Development Permit for locations where the floodplain has been delineated. This includes the four improvement areas covered by the previously mentioned NRCS report, which is used by Gallatin County as a regulatory tool.

3.4.2 Water Resources/Quality

Surface Water

Section 303(d) of the Federal Clean Water Act and related regulations requires states to assess the condition of their waters to determine where water quality is impaired (does not fully meet standards) or threatened (is likely to violate standards in the near future). The result of this review is the 303(d) list, which must be submitted to the EPA every other year. Section 303(d) also requires states to

prioritize and target water bodies on their list for development of water quality improvement strategies (i.e., establishing total maximum daily loads (TMDLs) of pollutants), and to develop such strategies for impaired and threatened waters. Under Montana statutes, “credible scientific data” are required to list a water body on the 303(d) List. Listings fall into the following categories:

- **Fully supporting:** achieving all the water quality standards
- **Threatened:** fully supporting designated uses but threatened for a particular designated use because sources are not subject to permits or regulation or adverse pollution trends have been documented.
- **Partial support:** not achieving all the water quality standards for the use in question, but the degree of impairment is not severe.
- **Non-supporting:** not achieving all the water quality standards for the use in question, and the degree of water quality impairment is relatively severe
- **Not Assessed**

Six water bodies in the project area are listed in the Section 303(d) 2002 report. These include the Gallatin River; Storm Castle Creek; West Fork Gallatin River; Middle Fork, West Fork Gallatin River; South Fork, West Fork Gallatin River; and Taylor Fork. Of these water bodies, only the Gallatin River and the West Fork Gallatin are directly adjacent to proposed improvement areas. Other listed water bodies would not be impacted by this project because they are upstream of the project area and terminate at the Gallatin River. Therefore, only the Gallatin River and the West Fork Gallatin are discussed.

Gallatin River

The Gallatin River flows north, adjacent to the project corridor, and continues on to join the Missouri River approximately 64 km (40 mi) north of the project area near the town of Trident, Montana (Figure 1.1). The river segment from Spanish Creek north to the Missouri River is assessed with impaired uses for cold water fishery-trout and primary contact (recreation). The segment of the Gallatin River that is adjacent to the proposed improvement areas has not been assessed for aquatic life support, cold water fishery – trout, drinking water, or primary contact (recreation). These uses are scheduled to be assessed in 2006. This river segment is fully supporting of agriculture and industrial uses. The Gallatin County Local Water Quality District sampled and assessed habitat values for the Gallatin River in 2001 and 2002. This assessment (*An Analysis of the Aquatic Invertebrates and Habitat of the Lower Gallatin River and South Cottonwood Creek, Gallatin County, Montana, September 2001 and September 2002*) indicated that the aquatic habitat of the Gallatin River near US 191 just north of the project area was good but slightly impaired (corresponding to a partially supporting use).

West Fork Gallatin River

The West Fork Gallatin flows east under US 191 at MP 48 in the Big Sky Area (Appendix A). Uses that are partially supporting include cold water fishery-trout and aquatic life support. Primary contact (recreation) is not supported. Probable causes include algal growth/chlorophyll, nutrients, and siltation. Probable sources include silviculture, construction (land development), and land disposal (septic). Total maximum daily loads have not been developed for this water body.

Porcupine Creek, which joins the Gallatin River near MP 45.4 east of the Big Sky Area, is included in the 2004 draft database. Agriculture and industrial uses have not been assessed for this stream. Based on biological monitoring of this stream, other uses are assessed as fully supporting. Headwaters for this stream are east of US 191.

Other water bodies in the project area include numerous tributaries of the Gallatin River, which are listed in Table 3.8. Additionally, there are several unnamed drainages in the project area which also flow into the Gallatin River.

Table 3.8 Water Bodies Along Gallatin River (Spanish Creek to Missouri River)

Water Body Name	MP
Jack Creek	2.5 miles north of MP 68
Spanish Creek	MP 68
Logger Creek (also Shenango Creek) *	MP 65
Hell Roaring Creek	MP 64
Storm Castle Creek	MP 63.7
Cave Creek	MP 62
Cascade Creek	MP 61
Burtin Creek	MP 58
Greek Creek *	MP 57.2
Swan Creek *	MP 57
Moose Creek	MP 55.7
Mike Creek	MP 54.3
Tamphery Creek	MP 54
Portal Creek	MP 53
Asbestos Creek	MP 52.3
Goose Creek	MP 51.6
Deer Creek	MP 51.2
Jack Smith Creek	MP 49.8
Levinsky Creek	MP 48.7
West Fork Gallatin *	MP 48
Michener Creek *	MP 47
Porcupine Creek	MP 45.4
Beaver Creek *	MP 45.2
Twin Cabin Creek	MP 43
Buck Creek	MP 41
Elkhorn Creek	MP 40.2
Cinnamon Creek	MP 37
Buffalo Horn Creek	MP 36
Flints Creek	MP 35.9
Taylor Creek	MP 34
Sage Creek	MP 33.3
Teepee Creek	MP 32.5

* Directly adjacent to improvement areas

Groundwater

Drinking water is supplied through groundwater sources. There is a mix of individual wells and small public water systems in the project area. In addition, there is the potential to encounter septic systems in private developments. Drinking water is of high quality.

Impacts

No-Build Alternative

The No-Build Alternative would cause no additional impact to surface water or ground water quality in the corridor.

Build Alternative

Surface Water

The proposed improvement areas along US 191 occur downstream of most of the impaired water bodies and are unlikely to affect these waters. However, the Gallatin River and the West Fork of the Gallatin River could be impacted by the project.

In-stream work would be required for the replacement and/or construction of new structures. Bridge replacement can change water flows, sediment transport rates, sediment composition, and subsequent changes in pollutant loads, thermal fluctuations, and erosion. Proper design of bridge piers and abutments and adherence to BMPs to avoid erosion and flow impacts during construction can reduce potential for water quality impacts. Permanent water quality impacts would generally be limited to those associated with increased impervious surface area.

Impervious surfaces can have an effect on water quality. Stormwater runoff increases as the area of impervious surface increases. Runoff can carry sediments and other pollutants and debris into streams and wetlands, which degrades water quality. In addition, runoff from impervious surfaces has a higher temperature than water that percolates through the ground to recharge groundwater. The discharge of warmer water into water bodies and can affect water quality. Increases in impervious surface area from the roadway widening of the proposed project would be relatively small. Widening would only occur at the ten improvement areas within the project corridor and improvements would occur along existing centerlines thus minimizing the project footprint.

Water quality for the Gallatin River within the project area has not been assessed for the 303(d) list, and there are no data suggesting the causes or sources of potential water quality impacts. However, water quality is considered fully supporting for agriculture and industrial uses, and biological monitoring by the Gallatin County Local Water Quality District indicates water quality degradation just north of the project area is only slight. The minor impacts to water quality of the Gallatin River that may result from this project would not be expected to impair the recreation or habitat values of the river.

The West Fork Gallatin River could be impacted by in-stream work during the removal of the existing US 191 bridge, construction of the new bridge and construction of two slope stabilization structures north and south of the new bridge. The Build Alternative would result in a wider roadway and bridge adjacent to the West Fork Gallatin River, which would contribute to increased runoff into the river. Properly designed slope stabilization structures would maintain the banks of the river without resulting in rechanneling or long-term erosion that could lead to siltation or scour. According to MDEQ's 2004 water quality database, of primary concern for this water body are presence of bacteria and nuisance algae for human recreation (contributing to severe degradation of this use) and effects of sedimentation on aquatic life (contributing to slight or moderate impairment). Contaminated runoff from highways is predominately metals, which are not listed as sources of water quality impairment in this river. Increased temperatures also are not a primary source of water quality impairment for this water body.

Groundwater

Groundwater is not expected to be impacted by this project as construction would occur at or near the ground surface. Therefore, there would be no impacts to groundwater or drinking water as a result of the Build Alternative. Information on septic systems and ground water wells that may be adjacent to US 191 in the project area is not available at this time.

Water resource impacts to surface water and groundwater that could occur during construction are discussed in Section 3.5 Construction Impacts. Impacts for riparian habitats from temporary and permanent sedimentation and contamination are discussed in Section 3.4.7, Fisheries.

Mitigation

The Build Alternative would be in compliance with conditions of the water quality permits, which are intended to minimize impacts to water bodies. Specific mitigation measures would include:

- Adherence to MDT best management practices.
- An erosion control and sediment plan prepared in compliance with the Montana Pollutant Discharge Elimination System regulations.
- Adherence to conditions specified in the Montana Stream Protection Act Permit (SPA 124).
- Adherence to the COE 404 Permit conditions.

If groundwater wells or septic systems are within the final right-of-way and are affected by the project, they would be relocated in accordance with MDT procedures.

3.4.3 Water Body Modifications

There are currently seven bridges on US 191 within the project limits, two of which are within the project improvement areas.

West Fork Gallatin River bridge (MP 48.0).

US 191 crosses West Fork Gallatin River with a three-span, cast in place, concrete bridge with two intermediate pier walls that are both above the normal high water mark. The bridge was built in 1958 and is 16.5 m (54.1 ft) long and 9.1 m (29.9 ft) wide.

Swan Creek bridge (MP 57.3).

US 191 crosses Swan Creek with a three-span, cast in place, concrete bridge with two intermediate pier walls in the active channel. The bridge is 16.5 m (54.1 ft) long and 9.1 m (29.9 ft) wide.

In addition to the two bridges, there are numerous culverts that carry drainage water beneath US 191 in the project improvement areas. No retaining walls currently exist along the Gallatin River or tributaries of the Gallatin River in the project area.

Impacts

Potential water body modifications resulting from proposed improvements are typically determined by proposed bridge designs for each alternative. Due to the conceptual level of design of the build alternatives, final design is not completed on bridge replacements. Bridge engineering, and analysis of resulting water body modifications, would be conducted during final design.

No-Build Alternative

There would be no impacts under the No-Build Alternative because there would be no stream modifications. Existing bridges and culverts would continue to be maintained. No slope stabilization structures would be installed.

Build Alternative

West Fork Gallatin River Bridge and Swan Creek Bridge would be replaced to accommodate additional roadway width required for the addition of turn lanes. Final design for the two bridge replacements has not been determined. The recommendations for design of both bridges would be the result of an engineering analysis of site conditions, the appropriate hydraulic conveyance, and cost effectiveness.

Preliminary plans for the new Swan Creek Bridge propose a clear span bridge approximately 23 m (75.5 ft) long with an approximate roadway width of 15.4 m (50.5 ft). The new bridge over the West Fork Gallatin River is also proposed to be a clear span bridge approximately 27 m (88.6 ft) long and 23.4 m (76.6 ft) wide. The new bridge centerline would be shifted slightly upstream and the bridge would be built in phases to maintain traffic during construction.

US 191 crosses numerous man-made and natural drainages within the project corridor. The proposed project includes installation of eleven new culverts and removal of six existing culverts. The remaining existing culverts would be replaced due to age and deterioration and as necessary would be lengthened to accommodate the wider roadway within the improvement areas. As identified in a letter dated July 11, 2003, MFWP has concerns regarding the impediment of fish passage at culverts.

In order to accommodate the wider roadway width and side slope flattening proposed in the Build Alternative without encroaching into the adjacent water bodies, slope stabilization structures would be installed at six of the improvement locations. These slope stabilization structures have not yet been designed but may range between 0.5 m (1.6 ft) to 2.5 m (8.2 ft) in height and 13 m (42.7 ft) to 340 m (1115.5 ft) in length.

No new stream crossings are proposed under the build alternative. However, Swan Creek and West Fork Gallatin bridges would be replaced, and therefore the build alternatives would require in-channel construction that may increase erosion and interrupt flow. If work is performed in compliance with water quality permits, most impacts should be temporary, and long-term impacts would be minimal.

Mitigation

All work would be performed in accordance with state and federal guidelines regarding water quality and permit conditions. These include the applicable regulations under the Federal Clean Water Act of 1977 (i.e. 404 Permit) and specific permit requirements from the Montana SPA 124 Permit, Floodplain and Roadway Management Act, Montana 318 Authorization, and any other laws or regulations that may apply to the project. MDT would incorporate a Stormwater Pollution Prevention Plan (SWPPP) and Best Management Practices (BMPs) in the proposed construction projects.

Where culverts are to be added or replaced, they would be designed to accommodate fish passage to the extent practicable.

3.4.4 Wetlands (E.O. 11990)

Wetlands are regulated by Section 404 of the Clean Water Act, EO 11990 Protection of Wetlands, and EO 11998 Floodplain Management. The U.S. Army Corps of Engineers is the primary regulating agency for wetlands in Montana and makes final determinations regarding jurisdiction of wetlands.

Wetlands related to this project are described as jurisdictional wetlands. Jurisdictional wetlands possess three parameters including hydrophytic vegetation, hydric soils, and wetland hydrology as described in Section 404 of the Clean Water Act. No non-jurisdictional wetlands were identified in the project corridor.

Research Methods

A wetland delineation was conducted in the vicinity of each proposed improvement area in the project corridor, between June 5 and June 12, 2003, to determine the presence and extent of wetlands. A total of 14 wetland areas were assessed based on the presence of the three parameters described above, and all were determined to be jurisdictional wetlands. Full descriptions of each jurisdictional wetland are found in the *Gallatin Canyon Slope Flattening/Widening Wetland Delineation Report* (June, 2004). Locations of wetlands identified in the project corridor are found on the Environmental Overview Maps in Appendix A.

Functional Value Assessment

The jurisdictional wetlands in the project corridor were evaluated for functional value according to the MDT Montana Wetland Assessment Form. The jurisdictional wetlands found in the project corridor are categorized as II or III. Because US 191 is located adjacent to all of the wetlands, and most of the wetlands have at least one culvert that could bring contaminants into the wetland system, none of the wetlands assessed in the project corridor are high quality Natural Heritage Wetlands (Category I). Thus, the functional value of on-site wetlands for toxicant removal is not rated as sustaining high quality Natural Heritage Wetlands.

Category II wetlands, which are more common than Category I wetlands, provide habitat for sensitive plants and/or animals, function at very high levels for wildlife/fish habitat, are unique in a given region, or are assigned high ratings for many of the assessed functions and values. Category III wetlands are more common, generally less diverse, and often smaller and more isolated than are Category I and II wetlands. They can still provide many functions and values although they may not be assigned high ratings for as many parameters as Category I and II wetlands.

Impacts

No-Build Alternative

Under the No-Build Alternative, there would be no improvement activities. Therefore, no impacts to wetlands would result.

Build Alternative

Wetland impacts could occur under the Build Alternative as a result of activities such as construction of left turn lanes, right turn lanes, shoulder widening, slope flattening, installation of slope stabilization structures, replacement of culverts and bridges, and all other actions included as part of the corridor safety improvements. Direct impacts from the build alternative include loss of wetland

area. Table 3.9 presents the total direct impacts to jurisdictional wetlands in the project corridor and Table 3.10 provides a summary of direct impacts to jurisdictional wetlands by improvement site.

Table 3.9 Jurisdictional Wetland Impacts

Wetland Description					Wetland Impacts
Wetland	MP #	Wetland Orientation	Wetland Category	Total Wetland Area	Total Wetland Area Impacted by Proposed Project
				Hectares (Acres)	Hectares (Acres)
A	43.1	Parallel west	III	0.73 ha (1.80 ac)	0.24 ha (0.59 ac)
B	43.3	Parallel west	III	0.51 ha (1.27 ac)	0.02 ha (0.06 ac)
C	46.7	Parallel east	III	0.51 ha (1.27 ac)	0
D	47.5	Parallel east	III	0.57 ha (1.40 ac)	0.04 ha (0.09 ac)
E	49.4	Parallel east	III	0.04 ha (0.09 ac)	0.01 ha (0.02 ac)
F	49.7	Parallel east	III	0.02 ha (0.05 ac)	0.01 ha (0.02 ac)
G	49.7	Parallel west	III	0.05 ha (0.12 ac)	0.02 ha (0.04 ac)
H	58.3	Parallel north	III	0.02 ha (0.04 ac)	0.01 ha (0.02 ac)
I	58.3	Parallel north	III	0.08 ha (0.21 ac)	0.01 ha (0.03 ac)
J (Riparian Area associated with Beaver Creek) ("Waters of the U.S.")	45.5	Perpendicular east and west	III	0.12 ha (0.29 ac)	0
K	58.4	Parallel north	III	0.12 ha (0.30 ac)	0.05 ha (0.12 ac)
L (Riparian Area associated with W. Fork Gallatin River) ("Waters of the U.S.")	48.0	Perpendicular east and west	III	0.11 ha (0.28 ac)	0.02 ha (0.04 ac)
M (Riparian Area associated with Gallatin River) ("Waters of the U.S.")	Throughout corridor	Parallel east, west and south, and perpendicular east and west	II	10.89 ha (26.91 ac)	0.12 ha (0.30 ac)
N ¹ (Riparian Area associated with Swan Creek) ("Waters of the U.S.")	57.3	Perpendicular east and west	III	0.09 ha (0.23 ac)	0.04 ha (0.09 ac)
Total				13.86 ha (34.26 ac)	0.58 ha (1.45 ac)
Percent of Total Wetland Area Impacted²					4 %

¹ Includes impacts from proposed roadway detour associated with Swan Creek Bridge replacement.

² Percent of impact is calculated for acres.

Table 3.10 Jurisdictional Impacts by Improvement Site

Wetland Description						Wetland Impacts	
Site	Wetland	MP #	Wetland Orientation	Wetland Category	Total Wetland Area	Total Wetland Area Impacted by Proposed Project	Percent of Wetland Impacted ¹
					Hectares (Acres)	Hectares (Acres)	
Red Cliff Area	M	Throughout site	Parallel east	II	1.13 ha (2.79 ac)	0.02 ha (0.04 ac)	1%
Section House Area	A	43.1	Parallel west	III	0.73 ha (1.80 ac)	0.24 ha (0.59 ac)	33%
	B	43.3	Parallel west	III	0.51 ha (1.27 ac)	0.02 ha (0.06 ac)	5%
Big Sky Area	C	46.7	Parallel east	III	0.51 ha (1.27 ac)	0	0%
	D	47.5	Parallel east	III	0.57 ha (1.40 ac)	0.04 ha (0.09 ac)	6%
	L	48.0	Perpendicular east and west	III	0.11 ha (0.28 ac)	0.02 ha (0.04 ac)	14%
	M	Throughout site	Parallel east	II	5.63 ha (13.91 ac)	0	0%
	J	45.5	Perpendicular east and west	III	0.12 ha (0.29 ac)	0	0%
Jack Smith Bridge Area	E	49.4	Parallel east	III	0.04 ha (0.09 ac)	0.01 ha (0.02 ac)	22%
	F	49.7	Parallel east	III	0.02 ha (0.05 ac)	0.01 ha (0.02 ac)	40%
	G	49.7	Parallel west	III	0.05 ha (0.12 ac)	0.02 ha (0.04 ac)	33%
	M	Throughout site	Perpendicular east and west	II	0.17 ha (0.42 ac)	0	0%
Swan Creek Area	M	Throughout site	Parallel west	II	0.43 ha (1.07 ac)	0	0%
	N ²	57.3	Perpendicular east and west	III	0.09 ha (0.23 ac)	0.04 ha (0.09 ac)	39%
Greek Creek Area	H	58.3	Parallel north	III	0.02 ha (0.04 ac)	0.01 ha (0.02 ac)	50%
	I	58.3	Parallel north	III	0.08 ha (0.21 ac)	0.01 ha (0.03 ac)	14%
	K	58.4	Parallel north	III	0.12 ha (0.30 ac)	0.05 ha (0.12 ac)	40%
	M	Throughout site	Parallel south	II	0.40 ha (0.99 ac)	0.004 ha (0.01 ac)	1%

Table 3.10 Jurisdictional Impacts by Improvement Site (continued)

Wetland Description						Wetland Impacts	
Site	Wetland	MP #	Wetland Orientation	Wetland Category	Total Wetland Area	Total Wetland Area Impacted by Proposed Project	Percent of Wetland Impacted ¹
					Hectares (Acres)	Hectares (Acres)	
Storm Castle Creek/ Castle Rock Inn Area	M	Throughout site	Parallel east	II	2.86 ha (7.07 ac)	0.04 ha (0.10 ac)	1%
Spanish Creek Area	M	Throughout site	Parallel east	II	0.27 ha (0.67 ac)	0.06 ha (0.14 ac)	21%

¹ Percent of impact is calculated for acres.

² Includes impacts from proposed roadway detour associated with Swan Creek Bridge replacement.

Table 3.11 represents the total permanent impacts to jurisdictional wetlands by MDT Wetland Category. The majority of the wetlands that would be directly affected by the proposed project provide low habitat for Threatened and Endangered wildlife species (Wetlands A, B, C, D, E, F, G, H, I, J, K, and L). However, Wetland M (riparian area associated with the Gallatin River) provides high habitat because bald eagles utilize the riparian area of the river as wintering habitat. The impacts to the wetlands would be minimal and the majority of the impacts would occur to potential habitat located directly adjacent to the existing highway. The disturbed areas would be revegetated after construction and there is ample habitat for wildlife in less disturbed areas outside the project area that may provide more cover and less disturbance from the highway.

Table 3.11 Summary of Impacts to Wetlands by MDT Functional Category

Wetland	Total Wetland Area ¹	Total Wetland Area Impacted by Proposed Project ²
Category II Wetlands		
M	10.89 ha (26.91 ac)	0.12 ha (0.30 ac)
Percent of Category II Wetlands Impacted¹		1%
Category III Wetlands		
A, B, C, D, E, F, G, H, I, J, K, L, N	2.97 ha (7.35 ac)	0.47 ha (1.14 ac)
Percent of Category III Wetlands Impacted¹		16%

¹ Percent of impact is calculated for acres.

The majority of the wetlands that would be directly affected by the proposed project provide no habitat (Wetlands A, B, C, D, E, F, G, H, I and K) or medium quality habitat (Wetlands J, N, and L) for general fish and aquatic species. However, Wetland M (riparian area associated with the Gallatin River) provides high quality habitat because it is a permanent, perennial drainage with high structural diversity and contains native game (rainbow trout and Yellowstone cutthroat trout) fish species. Some

riparian vegetation may be removed as a result of the proposed project, but no fill material is anticipated in the waterways. The areas would be revegetated after construction. Therefore, the direct impacts to fisheries would be minimal.

The following indirect impacts to wetlands were assessed for modification of the wetland functions due to (1) sedimentation, (2) degradation of water quality, (3) increased water temperature, (4) increase in non-native plant species, (5) hydrologic modifications, and (6) increases in development.

Sedimentation. Sedimentation could occur when areas adjacent to wetlands and other waters of the US are left exposed as a result of cut and fills. The filling of wetlands by sedimentation can increase on-site and off-site flooding. This impact would likely be localized and in most cases can easily be avoided. The indirect effect of the reduction in flood storage areas in the project corridor would be minimal because the proposed project would not significantly contribute to the filling of wetlands in the project corridor.

Water Quality Degradation. The primary source of contaminants from transportation systems is runoff (including metals and inorganic material) from impervious surface area. Because the existing highway would be widened in some locations, impervious surface area would increase and could increase the amount of contaminant input into wetlands. Increases in impervious surface area from widening and slope flattening activities would be relatively small; therefore, the impacts to water quality would be minimal. Also, the wetlands in the project corridor already experience input from transportation systems because they are located adjacent to the existing roadway.

Increased Water Temperature. The increase of impervious surface areas and clearing of vegetation are the two most significant actions that affect water temperature. Survival of trout and other salmonids is dependent on water temperature. Water temperature influences all aspects of fish life, as well as those of their food organisms. An increase in impervious surface area can increase water temperature by further dispersing water and creating more surface area, causing the water temperature to increase. Clearing of vegetation reduces infiltration and shading, creating more solar exposure to runoff, thereby resulting in increased water temperatures in wetland areas. This effect to wetlands in the project corridor would be minor because a minimal amount of riparian habitat would be removed and the increased impervious surface area would be spread out throughout the project corridor, rather than concentrated in one location.

Increase in Non-native Plant Species. Roads can also disrupt habitat continuity, driving out more sensitive, interior plant species, and providing habitat for harder opportunistic edge and non-native plant species. However, these wetlands are currently adjacent to the existing road and already experience some level of noxious weed invasion. MDT is responsible for maintaining the right-of-way in the project area and spraying for noxious weeds usually occurs in the summer months before the plants have gone to seed. The contractor for the proposed project would be required to contact Gallatin County Weed District for coordination of a weed management plan. Therefore, the project is not anticipated to increase opportunistic edge and non-native species in the wetland areas.

Hydrology. Roads commonly affect how water and its various loads move through watersheds. Roads can disrupt the natural flow of surface and groundwater, water circulation patterns, and in some cases, the movement of organisms. The majority of the creeks and rivers in the project corridor are already bisected by the existing highway and infrastructure. Therefore, the proposed highway improvements would have a minimal effect on their existing hydrology. The bridge replacements at the West Fork Gallatin River and Swan Creek crossings would be constructed so that the alteration of flows and the overall channel dynamic at these locations would not be affected. Therefore, the proposed project would not have a measurable effect on hydrology in the project area.

Growth in development. The proposed project is not expected to increase development. The proposed project is primarily a road improvement project designed to make the US 191 Gallatin Canyon corridor a safer roadway. The proposed project would not increase the number of lanes and is not intended to increase economic development. Therefore, the proposed project would not result in impacts to wetlands from induced growth and development.

Avoidance and Minimization of Impacts

The proposed safety improvements would be designed to the greatest extent practicable to avoid or minimize impacts to wetlands, including:

- Since the project is located in a narrow canyon and wetlands are located along both sides of the highway, all of the proposed safety improvements would be designed to maintain the existing centerline to minimize wetland impacts throughout the corridor.
- All of the proposed safety improvement projects avoid impacts to Wetlands C and J.
- Slope stability features, such as retaining walls, would be considered to minimize fill into wetlands and waters of the U.S. (Gallatin River).

At the ten project sites, the following avoidance and minimization techniques would be incorporated into the design of the proposed safety improvements (Table 3.12).

Table 3.12 Wetland Avoidance or Wetland Impact Minimization by Improvement Site

Site	Wetland	Avoided/ Minimized Impacts	Comments
Red Cliff Area	M	Minimized	Impacts to Wetland M would be minimized by designing a 160-m (525-ft) long slope stabilization structure north of the campground entrance along the eastside of US 191. The slope stabilization structure would be constructed just outside the existing guardrail and would tie into the bank above the ordinary high water mark, therefore reducing fill into Wetland M.
Section House Area	A	Minimized	Due to safety issues at this location, the existing guardrail needs to be removed at this location and the side slopes flattened to eliminate unsafe driving conditions. It is not practicable to avoid Wetland A due to the proximity of the wetland to the west side of the existing roadway and the proximity of the Gallatin River to the east side of the existing roadway. Impacts to Wetland A would be minimized by maintaining the existing centerline.
	B	Minimized	It is not practicable to avoid Wetland B due to the location of the project in a narrow canyon and the proximity of the wetland to the existing roadway. However, wetland impacts would be minimized because the project maintains the existing centerline, therefore minimizing the project footprint.
Big Sky Area	C	Avoided	Alignment located west of Wetland C.
	D	Minimized	It is not practicable to avoid Wetland D due to the location of the project in a narrow canyon and the proximity of the wetland to the existing roadway. However, wetland impacts would be minimized because the project maintains the existing centerline, therefore minimizing the project footprint.
	J	Avoided	Proposed improvement project was designed to avoid Wetland J (riparian area associated with Beaver Creek) and minimize impacts to the newly restored Beaver Creek Channel downstream of US 191.

Table 3-12. Wetland Avoidance or Wetland Impact Minimization by Improvement Site (continued)

Site	Wetland	Avoided/ Minimized Impacts	Comments
Big Sky Area (cont.)	L	Minimized	Wetland L is associated with the West Fork of the Gallatin River. It is proposed that the new structure over the West Fork Gallatin would be a clear span structure in which case the potential for impacts to Wetland L would be reduced.
	M	Minimized	Impacts to Wetland M would be minimized by designing a 103-m (338-ft) long slope stabilization structure south of the West Fork Gallatin River along the east side of US 191. The slope stabilization structures would be constructed just outside the proposed guardrail and would tie into the bank above the ordinary high water mark, therefore reducing fill into Wetland M.
Jack Smith Bridge Area	E	Minimized	It is not practicable to avoid Wetland E due to the location of the project in a narrow canyon and the proximity of the wetland to the existing roadway. However, wetland impacts would be minimized because the project maintains the existing centerline, therefore minimizing the project footprint.
	F	Minimized	It is not practicable to avoid Wetland F due to the location of the project in a narrow canyon and the proximity of the wetland to the existing roadway. However, wetland impacts would be minimized because the project maintains the existing centerline, therefore minimizing the project footprint.
	G	Minimized	It is not practicable to avoid Wetland G due to the location of the project in a narrow canyon and the proximity of the wetland to the existing roadway. However, wetland impacts would be minimized because the project maintains the existing centerline, therefore minimizing the project footprint.
	M	Avoided	Wetland M is located north of the project improvement area.
Karst Ranch Area	-	-	No wetlands were identified in this improvement area.
Moose Creek Area	-	-	No wetlands were identified in this improvement area.
Swan Creek Area	M	Minimized	Impacts to Wetland M would be minimized by designing a 160-m (525-ft) long slope stabilization structure north of Swan Creek Road and a 120-m (394-ft) long slope stabilization structure south of Swan Creek Road along the eastside of US 191. The slope stabilization structures would be constructed just outside the proposed guardrail and would tie into the bank above the ordinary high water mark, therefore reducing fill into Wetland M.
	N	Minimized	Wetland N is associated with Swan Creek. It is proposed that the new structure over Swan Creek would be a clear span structure in which case the potential for impacts to Wetland N would be reduced.
Greek Creek Area	H	Minimized	It is not practicable to avoid Wetland H due to the location of the project in a narrow canyon and the proximity of the wetland to the existing roadway. However, wetland impacts would be minimized because the project maintains the existing centerline, therefore minimizing the project footprint.

Table 3-12. Wetland Avoidance or Wetland Impact Minimization by Improvement Site (continued)

Site	Wetland	Avoided/ Minimized Impacts	Comments
Greek Creek Area (cont.)	I	Minimized	It is not practicable to avoid Wetland I due to the location of the project in a narrow canyon and the proximity of the wetland to the existing roadway. However, wetland impacts would be minimized because the project maintains the existing centerline, therefore minimizing the project footprint.
	K	Minimized	It is not practicable to avoid Wetland K due to the location of the project in a narrow canyon and the proximity of the wetland to the existing roadway. However, wetland impacts would be minimized because the project maintains the existing centerline, therefore minimizing the project footprint.
	M	Minimized	It is not practicable to avoid Wetland M due to the location of the project in a narrow canyon and the proximity of the wetland to the existing roadway. However, wetland impacts would be minimized because the project maintains the existing centerline, therefore minimizing the project footprint.
Storm Castle Creek/ Castle Rock Inn Area	M	Minimized	Impacts to Wetland M would be minimized by designing three slope stabilization structures along the east side of US 191; The first would be 340-m (1,115-ft) long north of Squaw Creek Road; The second would be 220-m (722-ft) long south of Castle Rock Inn; The third would be 100-m (328-ft) long north of Castle Rock Inn. Each of these slope stabilization structures would be constructed just outside the proposed guardrail and would tie into the bank above the ordinary high water mark, therefore reducing fill into Wetland M.
Spanish Creek Area	M	Minimized	It is not practicable to avoid Wetland M due to the location of the project in a narrow canyon and the proximity of the wetland to the existing roadway. However, wetland impacts would be minimized because the project maintains the existing centerline, therefore minimizing the project footprint.

Mitigation

Impacts to wetlands in the project area would be unavoidable due to the existing alignment of the highway, the locations of the wetlands, and the design considerations. In these cases, a COE 404 permit would be required and may identify mitigation measures, which would need to be incorporated into the project. The proposed project would comply with the conditions of the permit.

The project area is located in the narrow Gallatin Canyon corridor where there is minimal opportunity for on-site mitigation due to geography and area development. MDT would coordinate with the COE and the USFWS during the Section 404 permit review process to investigate possible mitigation areas within the project area. If it is determined that there are no possible mitigation options on-site, MDT would use an off-site mitigation area. One mitigation site option is the Jack Creek Ranch near Ennis, Montana in the Madison River drainage area of the Upper Missouri Watershed approximately 32 air-km (20 air-mi) west of the Gallatin Canyon project area. This mitigation site is a stream and drained wetland restoration project that has the potential for approximately 24 ha (60 ac) of wetland credit and provides the opportunity to create wetlands with similar values and functions.

The proposed project would impact a total of 0.14 ha (0.35 ac) of Category II wetlands and a total of 0.47 ha (1.14 ac) of Category III wetlands. The COE would make the final determination on the mitigation ratios and location of the mitigation site during the Section 404 review permit process.

MDT would incorporate a SWPPP and BMPs into construction projects. Ground disturbance would be minimized and disturbed areas would be reclaimed and revegetated utilizing MDT standard specifications. (See Section 3.5 Construction Impacts).

3.4.5 Vegetation

The vegetation in the project corridor consists mainly of coniferous forest, grassland/shrubland, and riparian communities. The coniferous forest community is dominated by plant species such as lodgepole pine, Douglas fir, snowberry, and Oregon grape. Big sagebrush, Idaho fescue, bluebunch wheatgrass, and mountain brome dominate the grassland shrubland community. The riparian community is dominated by black cottonwood, snowberry, Wood's rose, white spirea, red-osier dogwood, pacific willow, sandbar willow, reed canarygrass, and smooth scouring rush.

Montana Species of Concern

There are two vegetative species occurring in the project corridor that are listed on the Montana Natural Heritage Program (MTNHP) species of concern list. Table 3.13 lists the species and the species location in the project corridor.

Table 3.13 MTNHP Sensitive Plant Species Occurring in the Project Corridor

Species ¹	Species Location	Township, Range, and Section
Slender Indian paintbrush	Fan Creek Drainage Daly Creek Gallatin River	Township 10S, Range 5E, Section 24 Township 9S, Range 5E, Section 17 Township 6S, Range 4E, Section 33
Small-winged sedge	Specimen Creek	Township 9S, Range 5E, Section 35

¹Source: *MDT Threatened and Endangered Species and Biological Resources Report (2002)*.

Noxious Weeds

According to the *MDT Threatened and Endangered Species and Biological Resources Report (2002)*, spotted knapweed (degree of infestation in project corridor: patchy throughout) and Canada thistle (degree of infestation in project corridor: infrequent), are species of noxious weeds which are of greatest concern in Gallatin Canyon.

Based on a 2003 inventory conducted by Gallatin County, the Gallatin National Forest expressed concerns regarding noxious weed concentrations in the Gallatin Canyon in a letter dated April 14, 2005 (see Appendix B). These concerns included infestations of spotted knapweed in many areas adjacent to Highway 191 and the potential for expansion of hound's tongue, yellow toadflax, sulfur cinquefoil, common tansy, and oxeye daisy.

Impacts

No-Build Alternative

Under the No-Build Alternative, there would be no improvement activities. Therefore, no impacts to vegetative species would result.

Build Alternative

Under the Build Alternative, there would be no substantial effects to vegetation. The loss of vegetation would be minimal compared to the availability of similar vegetation that would remain throughout the project corridor. Some of this loss would be related to the tree removal that would be necessary in order to implement the safety improvements or improve the clear zone and/or sight distance. Tree removal would be minimal and would mostly occur within existing MDT transportation easements. One exception may be the Swan Creek Area, where tree removal from National Forest System Land (NFSL) may be necessary to construct the temporary detour during reconstruction of the bridge. Tree removal within existing transportation easements may occur along the east side of US 191 in the Red Cliff Area, Moose Creek Area, Swan Creek Area, Storm Castle Creek/Castle Rock Inn Area, and Spanish Creek Area. The number and precise location of trees that would be removed would be determined during final design.

The Build Alternative would have no affect on the Montana vegetative species of concern listed in Table 3.13. These plants are located far enough up the named drainage that the proposed safety improvement projects would not directly affect them.

Increases in noxious weeds from the proposed project would be small. The vegetation areas along US 191 in the project corridor are either developed or adjacent to the existing road and already experience some level of noxious weed invasion.

Mitigation

MDT would continue to coordinate with the GNF regarding the potential removal of trees near recreational and other sites in the project corridor. Early coordination between GNF and MDT staff has resulted in a number of mitigation measures intended to minimize the impact to vegetation in the project corridor. These measures are discussed in Section 3.3.5, Visual Resources.

Disturbed areas within MDT right-of-way or construction easements would be reclaimed and revegetated utilizing MDT standard specifications. To reduce the spread of noxious weeds during construction, the Contractor should clean equipment prior to entering and leaving a site to preclude the transfer of seeds into other improvement areas. The Contractor would coordinate with the Gallatin County Weed District to ensure compliance with the Gallatin County Weed Plan. The following mitigation measures would be taken on NFSL to prevent the introduction or spread of noxious weeds:

- Workers would park their vehicles in weed-free areas that are identified with flagging or signs.
- All of the contractor's heavy equipment would be washed prior to entering and leaving the work area.
- Reseeding of disturbed areas within MDT right-of-way or construction easements on NFSL would be done with seed mixes reviewed by MDT agronomist and the Forest Service and certified as weed-free.
- Weed suppression would be completed prior to construction and then following construction for a period of up to three years in disturbed areas within MDT right-of-way or construction easements.

3.4.6 Wildlife

General Wildlife Resources

The Gallatin Canyon provides forested and riverine habitat for a variety of Montana wildlife species, including large ungulates and carnivores, small mammals, raptors, amphibians and reptiles, and aquatic species.

The portion of the project area between MT 64 and Karst Ranch, which includes the Big Sky Area, Jack Smith Bridge Area, and the Karst Ranch Area, has been identified by MFWP as an area providing connectivity between the Madison and Gallatin Mountain ranges for bighorn sheep (See MFWP letter date July 11, 2003 in Appendix B). The mortality of bighorn sheep along this stretch of US 191 has generated public and agency concern.

MFWP has also identified winter range for elk and moose that straddles the majority of the project corridor. Elk winter range has been identified on both sides of US 191 between MP 55 and 60 and for the length of the project area south of MT 64. These areas include the Greek Creek, Swan Creek, Moose Creek, Big Sky, Section House and Red Cliff Areas. Elk winter range has also been identified on the east side of US 191 between MP 48 and 52, directly north of MT 64, including the Big Sky and Jack Smith Bridge Areas.

Moose winter range has been identified along the east side of US 191 between MP 42 and 48, which includes the Big Sky and Section House Areas. Moose winter range has also been identified on both sides of US 191 between MP 27 and 36. Although this includes the southern 6.4 km (4 mi) of the project corridor, no improvement areas are proposed in this area.

Montana Species of Concern

Table 3.14 lists the MTNHP species of concern occurring near the project corridor as documented in the *MDT Threatened and Endangered Species and Biological Resources Report (2002)*.

Table 3.14 MTNHP Sensitive Species/Communities in the Project Corridor

Species ¹	Species Location	Township, Range, and Section
Stonefly (<i>isoperla petersoni</i>)	Gallatin River	Township 10S, Range 5E, Section 13
Boreal owl ²	Hidden Creek	Township 6S, Range 5E, Section 19
Gallatin mountainsnail	Storm Castle Creek	Township 4S, Range 4E, Section 34
Peregrine falcon	Storm Castle	Township 4S, Range 4E, Section 34
Great Blue Heron Rookery	Gallatin Gateway	Township 3S, Range 4E, Section 22

¹ Source: *MDT Threatened and Endangered Species and Biological Resources Report (2002)*.

² Not listed in the January 2003 MTNHP Animal Species of Concern Report.

The GNF has also identified two active nest sites of Peregrine falcons along the corridor, one which exists within one mile of a proposed construction area.

Impacts

No-Build Alternative

Under the No-Build Alternative, there would be no improvement activities. Therefore, no changes to impacts on terrestrial resources or species would result. The existing conditions with bighorn sheep mortality due to vehicles would continue.

Build Alternative

Under the Build Alternative, there would be no substantial effects on wildlife. Both direct effects, such as habitat alteration and fragmentation, and indirect effects, such as increased mortality from vehicles, were evaluated for this project.

Habitat Alteration and Fragmentation

All habitat areas potentially impacted are in locations that have been altered previously by the roadway or adjacent development, thereby limiting the use of these areas to wildlife.

Because of the limited nature and size of the improvement areas, and the minimization of required right-of-way, the proposed project would not adversely affect general wildlife or their habitat in the project corridor.

Mortality

Traffic volume is not expected to increase because of this project, and the speed limit would remain the same. The wider road width in the proposed improvement areas may decrease the potential for wildlife fatalities in these areas because the driver has more space to maneuver around wildlife that may be crossing the road. Therefore, the proposed project is not anticipated to increase wildlife fatalities, and may decrease fatalities.

Montana Species of Concern

While each of the sensitive species of concern listed in Table 3.14 occurs near the project corridor, the segmented locations of the proposed project improvements over 61.2 km (38.0 mi) along US 191 should not adversely impact these species. The stonefly and avian species are found in areas removed from US 191 or in locations not directly associated with the proposed safety improvements. Because of the limited nature and size of the improvement areas, and the minimization of required right-of-way, the proposed project should not permanently affect the above listed species. See Section 3.5 Construction Impacts for potential temporary impacts.

Mitigation

The main consideration of impacts to general wildlife species associated with the proposed project is the removal of habitat that may be used as foraging habitat or movement corridors. Removal of habitat would be minimized or avoided to the greatest extent practicable. The opportunity to enhance wildlife movement at the new bridge locations would be addressed by the proposed clear span structures at West Fork Gallatin River and Swan Creek crossings. The new structures would be longer than the existing structures, thereby maintaining and improving the opportunity for wildlife movement at these locations.

The necessity for bighorn sheep crossing signs with yellow caution lights between MT 64 and Karst Ranch to alert drivers to the potential for bighorn sheep on the roadway would be investigated with MFWP. If warranted, MDT would complete this installation under a maintenance contract. Overhead power lines relocated during construction would be raptor-proofed in accordance with MDT policies.

3.4.7 Fisheries

The Gallatin River and its tributaries support a variety of Montana native and game fish. Fish species commonly found in the Gallatin River and its tributaries include: brook trout, brown trout, mountain whitefish, mottled sculpin, rainbow trout, longnose dace, longnose sucker, mountain sucker, and white sucker.

Both Swan Creek and West Fork Gallatin are important spawning streams for rainbow trout in the Gallatin River. Rainbow trout in the canyon typically begin to move in mid-November and spawn throughout late spring.

Montana Species of Concern

According to the *MDT Threatened and Endangered Species and Biological Resources Report (2002)*, the following MTNHP aquatic species of concern occur in the project corridor: Westslope cutthroat trout, Fluvial Arctic grayling, and Yellowstone cutthroat trout. The Fluvial Arctic grayling is discussed under Threatened and Endangered Species.

Impacts

Table 3.15 summarizes the impacts to aquatic resources found in the project corridor. Both resident and migratory species are present in the Gallatin River, the West Fork Gallatin, and Swan Creek. Resident fish such as brown trout and brook trout have demonstrated a greater tolerance to temporary disturbances, such as construction activity, than their migratory counterparts such as the rainbow trout. In addition, bridge replacements are proposed over two tributaries (Swan Creek and West Fork Gallatin) that are important rainbow trout spawning streams. As such, rainbow trout may be affected by the proposed project. Potential temporary impacts to rainbow trout would be discussed in Section 3.5 Construction Impacts.

Table 3.15 Aquatic Species in the Project Corridor

Species ¹	Species Location (Water body)	May Affect
Brook trout	Gallatin River; Swan Creek	No
Brown trout	Gallatin River; Swan Creek; West Fork Gallatin River	No
Mountain whitefish	Gallatin River; Swan Creek; West Fork Gallatin River	No
Mottled sculpin	Gallatin River; Swan Creek; West Fork Gallatin River	No
Rainbow trout	Gallatin River; Swan Creek; West Fork Gallatin River	Yes
Westslope cutthroat trout	Gallatin River West Fork Gallatin River	No
Fluvial Arctic grayling	Gallatin River	No
Longnose dace	Gallatin River	No

**Table 3-15. Aquatic Species in the Project Corridor
(continued)**

Longnose sucker	Gallatin River	No
Mountain sucker	Gallatin River	No
White sucker	Gallatin River	No
Yellowstone cutthroat trout	Gallatin River	No

¹ Source: *MDT Threatened and Endangered Species and Biological Resources Report (2002)*.

Potential indirect impacts to fisheries from the proposed project, which were evaluated include effects caused by (1) contaminants, (2) increased water temperature, (3) loss of riparian vegetation, and (4) change in peak/base flow. Substrate is also an issue and is discussed in Section 3.5 Construction Impacts.

Contaminants

Increased impervious surface areas are likely to contribute indirectly to the degradation of water quality in receiving water bodies through the introduction of contaminants. This effect would be minimal because the proposed project would not significantly contribute to water quality degradation in the project corridor.

Increased Water Temperature

The increase of impervious surface area and clearing of vegetation, especially riparian vegetation, are the two most significant actions that affect water temperature in aquatic environments. Clearing of vegetation reduces infiltration and shading, and creates more solar exposure to runoff, thereby resulting in increased water temperatures in receiving water bodies. Most transportation projects that result in the reduction of vegetated areas and/or an increase in impervious surface area contribute to some extent to a temperature increase in receiving waters. This effect to aquatic habitat would likely be minor and localized.

Riparian Vegetation

As discussed previously, riparian vegetation adjacent to water bodies helps regulate water temperature. It also supplies dead leaves and other organic matter to water bodies and is the predominant base of the food chain in forest streams and creeks. Also, large pieces of wood that have fallen from trees in the riparian areas create important habitat complexity in river channels. Consequently, altering adjacent riparian vegetation can affect the habitat structure in water bodies.

Riparian shrub and tree habitat could be permanently removed from the banks of the Gallatin River, West Fork Gallatin River, and Swan Creek, reducing the potential for shading and the introduction of organic matter and large pieces of wood into these water bodies. This effect to aquatic habitat would likely be minor and localized.

Change in Peak/Base Flow

Because the project would be replacing existing bridges and no new bridges are proposed, alteration of flows would not have a measurable effect on fisheries, and could be improved by removing the piers that currently exist in Swan Creek.

Mitigation

Although impacts are expected to be minor, the following mitigation measures are based on the *MDT Threatened and Endangered Species and Biological Resources Report (January 28, 2002)*. Fill of any kind into the Gallatin River throughout the project corridor would be minimized. BMPs and erosion control measures would be installed and maintained throughout construction to prevent inadvertent sedimentation and potential erosion into the Gallatin River and its tributaries. The proposed project would adhere to the final conditions of the Montana Stream Protection Act (SPA 124) Permit. Additionally, the feasibility of clear spans for each of the crossings along with a minimum amount of riprap due to the natural stability and substrate composition of these tributaries at the confluence of the Gallatin River would be assessed.

3.4.8 Threatened and Endangered Species

Identification of Threatened and Endangered Species evaluated in this EA comes from the August 26, 2003 USFWS, Montana Field Office letter. Table 3.16 lists the status, habitat requirements, and expected occurrence of the species identified for consideration in this EA. Specific descriptions of Threatened and Endangered species evaluated in this EA can be found in the *Gallatin Canyon Slope Flattening/Widening Biological Assessment (June 2004)*. USFWS concurred with the assessment of impacts to endangered species on June 21, 2004 (Appendix B).

Table 3.16 Federally Listed and Candidate Species Potentially Occurring in the Project Corridor

Species	Status	Habitat Requirements	Expected Occurrence ¹
Birds			
Bald eagle <i>Haliaeetus leucocephalus</i>	FT	Open water bodies riparian habitat, waterfowl and fish important food sources.	Spring or fall migrant; winter resident.
Mammals			
Canada lynx <i>Lynx canadensis</i>	FT	Feeds primarily on snowshoe hare; requires dense cover for denning.	Possible resident in general area.
Grizzly bear <i>Ursus arctos horribilis</i>	FT	Forest habitat away from human disturbance.	Transient or resident throughout area.
Gray wolf <i>Canis lupus</i>	NE/P	Wolf denning habitat is remote, free from human disturbance, and with low road densities.	Transient or resident throughout area.
Fish			
Fluvial Arctic grayling <i>Thymallus arcticus</i>	FC	Clean mountain streams and rivers.	Gallatin River System

¹ Source: USFWS, August 2003.

FT = Federally Threatened

NE/P = Non-essential Experimental/Proposed

FC = Federal Candidate

Bald eagle

The closest documented nest site is located approximately 40-km (25-mi) south of the project corridor on Hebgen Lake, and no documented roost or perch sites are present in the project corridor. However, there is suitable habitat present in the project corridor along the Gallatin River and tributaries to the

river for potential nests, roosts and perch sites. Correspondence letters from USFS and USFWS (Appendix B) indicate that bald eagle wintering and spring and fall migrant bald eagles occur along the Gallatin River and tributaries to the river in the project corridor.

Canada lynx

Lynx have been documented in the GNF, but not in the proposed project corridor or directly adjacent to US 191. The project corridor is not within a designated Lynx Analysis Unit (LAU). However, from Big Sky north to Karst Ranch, four LAUs exist near the US 191 project corridor. There are two on the west side of the project corridor, Bear Basin and Spanish Peaks, and two on the east side, Swan-Moose and Portal Creek. Since these LAUs are on either side of US 191, connectivity between these LAUs must be maintained. According to the Gallatin Canyon North Hazardous Fuels Reduction Biological Assessment, there is no documented lynx occurrence in the four LAUs mentioned above. However, lynx habitat in the form of travel, foraging, and denning does exist.

In January of 2004, the USFS and the BLM released the Northern Rockies Lynx Amendment as a Draft Environmental Impact Statement (DEIS). The purpose and need for this document “is to incorporate management direction that conserves and promotes the recovery of the lynx, by reducing or eliminating adverse effects from land management activities on National Forest Service (NFS) and BLM lands, while preserving the overall multiple-use direction in existing plans”. Although the project corridor lies within NFS land (Gallatin National Forest), the proposed project does not conflict with the Northern Rockies Lynx Amendment DEIS since the proposed project is not altering the existing GNF plans.

The Canada Lynx Conservation Assessment and Strategy (LCAS) was developed to provide a consistent and effective approach to conserve lynx on federal lands. The LCAS has management standards and the proposed project was evaluated to determine if it adheres to these standards. The LCAS states that “highway segments that...have experienced significant wildlife mortality due to vehicular collisions should be identified. Key linkage areas should be identified to integrate into planning at this scale”. The area between Karst Ranch and Big Sky has been identified by the MFWP as an area where there is a disproportionate number of bighorn sheep killed; this may be an important linkage for other wildlife, including lynx, as well.

Grizzly bear. Grizzly bears have been documented in the GNF, but not in the proposed project corridor or adjacent to US 191. While grizzly bear denning is unlikely in the project corridor, it is possible that grizzly bears may be observed close to US 191 or may cross US 191 during the big game wintering period from March to May in search of carrion.

The southern portion of the project corridor, from Big Sky south to MP 32.0, lies within the Yellowstone Grizzly Bear Recovery Zone. A 16-km (10-mi) buffer area surrounds recovery zones to ensure protection of grizzly bear habitat. The proposed project corridor is within the 16-km (10-mi) buffer area associated with the Yellowstone Grizzly Bear Recovery Zone. Bear Management Units (BMU) are delineated by the USFS Forest Plans for each National Forest with input from the Interagency Grizzly Bear Committee (IGBC) and are roughly the approximate size of a female grizzly bear's home range, including seasonal and elevation distribution of habitats. There are 18 BMUs in the Yellowstone Grizzly Bear Recovery Zone. The project corridor lies between the Gallatin and the Hilgard BMUs.

Gray wolf. The proposed project is located within the boundaries of the Chief Joseph wolf pack. Gray wolves have been documented in the GNF, but not in the proposed project corridor or adjacent to

US 191. While gray wolf denning is unlikely in the project corridor, it is possible that wolves may be observed near US 191 or may cross US 191 during the big game wintering period from March to May.

Section 10 of the Endangered Species Act (ESA) authorizes the USFWS to permit acts otherwise prohibited under section 9 of the ESA if those acts serve scientific purposes or enhance the propagation or survival of the affected species. These permits can apply to acts that are necessary to establish and maintain experimental populations, which are subject to special provisions. The gray wolves released into Yellowstone National Park are considered an “experimental” population.

The proposed project corridor lies within the Yellowstone non-essential experimental population area, which includes a portion of Montana east of Interstate 15 and south of the Missouri River. Therefore, the gray wolf is listed as non-essential experimental species in the project corridor under the ESA. For ESA section 7 consultation purposes, wolves designated as non-essential experimental that are not within units of the National Park or National Wildlife Refuge systems, but are within the boundaries of the non-essential experimental population area, are treated as proposed species. As such, Federal agencies are only required to confer with the USFWS when they determine that an action they authorize, fund, or carry out is “likely to jeopardize the continued existence” of the species. The non-essential experimental gray wolves potentially occurring in the project corridor are not located within a National Park or National Wildlife Refuge, and are therefore treated as a proposed species.

Fluvial Arctic grayling. Presently, fluvial (riverine year-round) Arctic grayling (grayling) are only found in the upper Big Hole River, located in southwestern Montana. Experimental reintroduction of grayling has occurred in Cougar Creek, Yellowstone National Park, and in the West and East Fork Gallatin rivers using progeny of the brood stock. Grayling have been introduced into the West Fork Gallatin River, but this is not considered a functioning population. Therefore, there are no spawning grayling in the project corridor.

Impacts

No-Build Alternative

Under the No-Build Alternative, there would be no physical construction activities. Therefore, no impacts to Threatened and Endangered Species would result.

Build Alternative

Bald eagle

Direct effects to bald eagles could include habitat alteration, including effects to suitable perching, roosting or nesting habitat from removal of riparian habitat. There are no documented roosts or nesting sites and there is an abundance of suitable habitat along the Gallatin River and its tributaries outside the project improvement areas. Therefore the project would not have significant permanent effects on bald eagles or their habitat.

Indirect effects that may occur to bald eagles include effects from prey habitat alteration (including water quality degradation), and mortality to their prey species from automobiles. Due to the relatively limited area that may be disturbed during construction and because the prey habitat within the corridor is not considered prime habitat, the project is not anticipated to substantially affect bald eagle prey species habitat in the project corridor. The minimal impact to water quality from the proposed project would not result in significant effects to aquatic habitat, and bald eagle aquatic prey species.

Traffic volume is not expected to increase because of this project, and the speed limit would remain the same. The wider road width in the proposed improvement areas may decrease the potential for wildlife fatalities because the driver of the vehicle has more time to maneuver around wildlife that may be crossing the road. The project is not anticipated to increase wildlife fatalities, including bald eagle prey species.

The Build Alternative may affect, but is not likely to adversely affect bald eagles. No designated critical habitat exists for bald eagles. Therefore the project would not result in the destruction or adverse modification of designated critical habitat.

Canada lynx

Direct effects to lynx from the proposed project could include habitat alteration and fragmentation. Due to the relatively limited area that may be disturbed during construction and because the habitat within the corridor is not prime habitat, the project is not anticipated to substantially affect lynx in the project corridor.

New roads may also fragment lynx travel corridors between LAU's and potential lynx foraging habitat, causing lynx to shift home ranges, or alter movement patterns, reproductive behavior, escape response, and physiological state. However, no new roads would be constructed as a result of this project. The proposed project would widen the existing roadway in certain areas to provide safety improvements. The wider roadway may decrease the permeability of the highway to species that were able to cross the existing narrower two-lane road in these improvement areas. However, fragmentation effects to habitat caused by the proposed project would be minimal since the proposed actions would occur along an existing developed transportation corridor that is not considered high value lynx habitat. Habitat effects would occur adjacent to US 191 and would have little effect on lynx, or essential habitats (e.g., denning, foraging, etc.).

Though slope stabilization structures are planned as part of this project, their spacing throughout the project corridor and their maximum total height, 2.5 m (8.2 ft), would not add to the barrier effect of the highway, and would not contribute further to fragmentation of lynx habitat. Also, all the locations in which slope stabilization structures are proposed are in areas where an already high level of human disturbance occurs.

New guardrail would only be installed at slope stabilization structures and within other improvement areas when deemed necessary for the safety of the traveling public. No additional guardrail is planned outside of current project improvement locations. The type of guardrail being used in this project would allow for wildlife movement, including lynx, under the beam or, because of the height [0.68 m (2.2 ft) above the ground surface], over the beam. Therefore, the construction of additional guardrail would not add to the barrier effect of the highway, and would not further contribute to fragmentation of lynx habitat.

Indirect effects that may occur to lynx from the proposed project include effects from prey habitat alteration and increased mortality to lynx and their prey species from automobiles. Due to the relatively limited area that may be disturbed during construction and because the habitat within the corridor is not considered prime habitat, the project is not anticipated to substantially affect lynx prey species in the project corridor. Additionally, all impacted habitat exists in locations that already have human disturbance, thereby limiting the use of these areas to lynx.

Bridge abutments can pose barriers to wildlife movements along a river corridor. If the animals cannot get around an abutment below the bridge, they might be forced up onto the highway where

mortality risk is greatly increased due to potential collisions with vehicles. However, the proposed bridge piers for the replacement bridges are above the normal high-water channel and would not impair movement of wildlife, including lynx and their prey species, under the replacement bridges over the West Fork Gallatin River and Swan Creek. Additionally, traffic volume is not expected to increase because of this project, and the speed limit would remain the same. However, the wider road width in the proposed improvement areas may decrease the potential for wildlife fatalities because the driver of the vehicle has more time to maneuver around wildlife that may be crossing the road. The project is not anticipated to increase wildlife fatalities, including lynx and their prey species.

The Build Alternative may affect, but is not likely to adversely affect Canada lynx. No designated critical habitat exists for lynx. Therefore the project would not result in the destruction or adverse modification of designated critical habitat.

Grizzly bear

Direct and indirect effects to grizzly bears would be the same as those discussed above for Canada lynx.

The Build Alternative may affect, but is not likely to adversely affect grizzly bears. No designated critical habitat exists for grizzly bears. Therefore the project would not result in the destruction or adverse modification of designated critical habitat.

Gray wolves

Direct and indirect effects to gray wolves would be the same as those discussed above for Canada lynx.

The Build Alternative may affect, but is not likely to adversely affect gray wolves. Designated critical habitat does exist for the gray wolf; however, none exists within Montana. Therefore the project would not result in the destruction or adverse modification of designated critical habitat.

Fluvial Arctic grayling

Direct effects to grayling from the proposed project may include possible fish mortality and displacement of individuals from the project corridor due to sedimentation as a result of work in and near water bodies. The introduced grayling are not a viable population in the West Fork Gallatin River, Gallatin River, or Swan Creek; therefore spawning habitat would not be affected by the proposed project.

Grayling would not likely be present in the project improvement areas during construction after the initial human-related disturbance. Direct mortality is very unlikely to occur, if grayling are present. Bridge construction and the installation of slope stabilization structures would require work within and immediately adjacent to the Gallatin River, West Fork Gallatin River, and Swan Creek. These actions are likely to increase sediment and turbidity levels in these water bodies during and immediately following construction. Such increases could have adverse effects on grayling if they are present within the action area downstream of the bridges, however the introduced grayling are not a viable population in the project corridor.

Indirect effects to grayling present in the project corridor include effects caused by contaminants, substrate, increased water temperature, loss of riparian vegetation and change in peak/base flows. The indirect effect of contaminant input into water bodies in the project corridor would be minimal because

the proposed project would not significantly contribute to water quality degradation in the project corridor.

Sediment released during construction can fill voids in downstream gravel thereby reducing its suitability for spawning. However, the introduced grayling are not a viable population in the water bodies in the project corridor and there are no spawning grayling in the project corridor or improvement areas.

Clearing of vegetation reduces infiltration and shading, and creates more solar exposure to runoff, thereby resulting in increased water temperatures in receiving water bodies. Most transportation projects that result in the reduction of vegetated areas and/or an increase in impervious surface area contribute to some extent to a temperature increase in receiving waters. This effect to grayling habitat would likely be minor and localized.

Riparian shrub and tree habitat could be permanently removed from the banks of the Gallatin River, West Fork Gallatin River, and Swan Creek, reducing the potential for shading and the introduction of organic matter and large pieces of wood into these water bodies. This effect to grayling habitat would likely be minor and localized.

Because the project would be replacing existing bridges and no new bridges are proposed, alteration of flows would not have a measurable effect on grayling, and could be improved by removing the piers that currently exist in Swan Creek.

The Build Alternative may affect, but is not likely to jeopardize the continued existence of the reintroduced population of the fluvial Arctic grayling.

Mitigation

The main consideration of impacts to bald eagles, lynx, grizzly bears and gray wolves associated with this proposed project is the removal of riparian habitat that may be used as foraging habitat or movement corridors. Removal of riparian habitat would be minimized or avoided to the greatest extent possible.

If power lines are constructed or modified, they would be raptor-proofed according to MDT policies. Fill of any kind into the Gallatin River throughout the project corridor would be minimized.

Mitigation measures for potential impacts to the fluvial Arctic grayling are addressed in the mitigation section under Construction Impacts.

3.5 CONSTRUCTION IMPACTS

The following discussion addresses potential temporary construction impacts as a result of the build alternative and identifies mitigation measures to avoid, reduce, or minimize adverse impacts. These measures would be incorporated into final construction plans to further minimize impacts to residents and the traveling public.

The duration of construction would be one construction season. However, there is a chance that bridge work at West Fork Gallatin could take two construction seasons, depending on the letting date and weather conditions. Final construction methods would be addressed during development of the final construction plans.

No-Build Alternative

There would be no construction impacts associated with the No-Build Alternative.

Build Alternative

Construction impacts due to the build alternative are discussed below for each resource area.

3.5.1 Transportation

Access

Access to private properties and businesses along the corridor could be impacted during construction.

Mitigation

Access to private properties and businesses along the corridor would be maintained at all times.

Traffic Operations

Traffic traveling the corridor would experience impacts during construction of the roadway due to temporary lane closures, delays, short-term travel on unpaved surfaces, and reduced travel speeds. The highway may be temporarily open to only one lane of traffic at some points during construction. Traffic diversions and construction equipment and activities close to the travel lanes would also affect speeds and traffic operations within the construction zone.

Mitigation

Mitigation for construction impacts would include preparation of a traffic control plan to minimize traffic disruption. The contractor would coordinate with emergency service providers and schools to solicit input into the construction traffic management plan and to provide ongoing information during construction. Two lanes of traffic would be maintained to the extent practicable.

Pedestrians and Bicyclists

Pedestrians and bicyclists in the Big Sky Area would experience short-term impacts during construction of the roadway improvements through the area. The bike/pedestrian path between MT 64 and Ophir School may be temporarily closed. Bicyclists along the corridor would experience short-term impacts from possible degradation of the roadway surface during construction.

Mitigation

Mitigation for construction impacts would include maintenance of pavement to the greatest extent practicable and additional pedestrian signage during construction.

3.5.2 Community

Land Use

Construction easements for grading, temporary access, or temporary construction staging would be needed from property owners and public agencies along the corridor. While the property owners and public agencies would retain ownership of these areas, their use of these areas during construction

would be restricted by particular construction activities. Upon completion of the roadway project, the property owners and public agencies would have unrestricted use of these areas again.

Mitigation

Mitigation for construction impacts would include early notification of property owners and public agencies of construction activities in order to address potential construction impacts. Staging areas on National Forest System Lands (NFSL) would be coordinated and approved by the USFS prior to construction.

Local and Regional Economics

Construction of the build alternative would not result in any economic impacts and may, to some minor degree, result in temporary economic benefits to the corridor communities. The construction work may directly create jobs and income for construction workers, including on-site laborers, specialists, engineers, and managers. Local residents would fill only a portion of these new jobs. Some skilled and semi-skilled construction workers in the communities near the project area may be able to find work on the construction project. More specialized trades and services may come from Bozeman or other larger cities.

Mitigation

No mitigation required.

Community Resources

Proposed improvements could temporarily impact travel patterns and convenience along US 191 within the project area during construction. Fire and law enforcement response could be delayed as well as school buses and vehicles dropping off and picking up students at Ophir School.

These conditions are only temporary and travel efficiency and operations for fire, law enforcement, and school buses would be improved once the project is completed.

Mitigation

Mitigation for construction impacts would include early notification of community service agencies, about construction activities in order to address potential construction impacts. The contractor would coordinate with emergency service providers and schools as necessary regarding the construction traffic management plan and would provide ongoing information during construction.

Right-of-Way and Relocations

Construction easements for grading, temporary access, or temporary construction staging would be needed from property owners and public agencies along the corridor. While the property owners and public agencies would retain ownership of these areas, their use of these areas during construction would be restricted by particular construction activities. Upon completion of the roadway project, the property owners and public agencies would have unrestricted use of these areas again.

Mitigation

Easements from private property owners would be obtained according to 49 CFR, Part 24, Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended to provide just compensation for and rehabilitation of temporary construction easements.

As discussed in Section 3.1, Section 4(f) Properties, no right-of-way acquisition from potential 4(f) properties would be required for the proposed improvements. If right-of-way acquisition is required, a section 4(f) Evaluation would be completed and consultation with the USFS would occur.

Utilities

Local communities may experience temporary disruption to utility service for water, sanitary, electric, communications, and gas service.

Mitigation

Temporary disruptions to utility services would be minimized through coordination with local utility providers.

Visual Resources

Some activities or elements present during the actual construction phase of the project would have visual impacts. For instance, removal of existing vegetation from road slopes would be a large visual impact. New cut and fill slopes would be highly visible to users. Construction equipment, whether working or parked, would be very visible to users.

Stockpiles of materials, such as crushed rock, soil, or culverts, would impact visual quality of the area as well. Dust raised by heavy equipment would also be visible to many highway users if not abated.

Mitigation

See vegetation mitigation and air quality mitigation.

Hazardous Materials

No contaminated soils were identified in the project area. However, if contaminated soils are encountered, ground disturbance from staging activities is generally shallow and would not be expected to have substantial effects on hazardous materials sites.

Removal of bridges and pavement would result in construction debris.

Mitigation

If contaminated soils are encountered within or near the construction staging areas a remediation/reclamation plan would be developed, if needed, in consultation with MDEQ.

Construction debris from removal of bridges and pavement would be handled as per MDT's *Standard Specifications for Road and Bridge Construction*.

Noise

FHWA Technical Advisory T6160.2 contains requirements for the evaluation of highway construction noise. If there is a possibility that construction noise would be a sensitive and contentious issue, the proposed project must be in compliance with the above mentioned noise directive. While the impact of highway construction noise does not appear to be substantial in this case, consideration was given to construction noise during project development. Based on public comments received throughout the NEPA process, it does not appear that construction noise would be a sensitive or contentious issue.

Mitigation

To minimize noise impacts at night, consideration would be given to limiting certain types of construction after dark. However, limiting all construction to daylight hours is not feasible or practical and could result in delays to the construction schedule. Contractors would adhere to MDT specifications and local ordinances and BMPs to minimize noise impacts during construction. Advance notice of construction would be provided to the GNF and area businesses and residences to minimize impacts on community activities.

3.5.3 Physical Environment

Floodplains

Temporary construction disturbance includes areas of floodplain that would experience temporary modification of functions, but would be returned to their preconstruction condition after construction of the project. These types of disturbances are temporary in nature and therefore would not permanently alter the natural and beneficial values of floodplain areas in the project corridor.

Mitigation

Gallatin County Floodplain Development Permits would be required for the floodplain encroachment throughout the corridor prior to construction. Coordination with the Gallatin County Floodplain Administrator would be required to obtain a Floodplain Development Permit for locations where the floodplain has been delineated.

Water Resources/Quality

Disturbed areas created during construction are the main source of erosion, which can be caused by soil disturbance, clearing of vegetation, borrow pits, and construction staging activities. Spilled fuels or other hazardous materials may also cause impacts to water quality during construction. Stormwater runoff presents the potential for violations of water quality standards within the project area.

Mitigation

MDT would prepare a SWPPP that includes the identification of BMPs to control erosion and stormwater runoff and would comply with permit requirements.

Water Body Modifications

The area at or near each bridge may be impacted by construction activities. These water bodies would be returned to their preconstruction condition after construction of the project. These types of

disturbances are temporary in nature and would not permanently alter the natural condition of the water body.

Mitigation

Disturbed stream banks would be revegetated to reduce erosion. The construction contractor would be required to follow all state and federal guidelines regarding water quality levels. These include the applicable regulations under the Federal Clean Water Act of 1977 (e.g. 404 Permit) and specific permit requirements from the Montana SPA 124 Permit; Floodplain and Roadway Management Act, Section 402/MPDES permit and SWPPP; any other laws or regulations that may apply to the project; and the utilization of the current BMPs.

Wetlands

Temporary construction impacts to wetlands could occur during construction of turn lanes, shoulder widening, slope flattening, installation of slope stabilization structures, replacement of culverts and bridges and all other actions required as part of the corridor safety improvements. In particular, Wetland N would be impacted by a temporary detour route that would be necessary to maintain traffic during the replacement of the Swan Creek Bridge. Concerns related to these temporary impacts are similar to other water quality concerns, such as sedimentation, erosion, and introduction of pollutants.

Mitigation

A COE 404 permit would be required. The proposed project would be in compliance with the conditions of the permit. MDT would incorporate a SWPPP and BMPs into construction projects. Temporary impacts to wetlands would be restored in accordance with MDT standard specification or permit conditions.

Vegetation

Temporary construction impacts to vegetation would include temporary vegetation loss. This temporary impact would vary by species type, depending on their recovery rates. The ultimate recovery of vegetation depends on the management of the area after construction. Other temporary direct impacts include the modification of vegetation communities from soil compaction and potential accidental fuel spills as a result of construction access and activities.

Mitigation

Disturbed areas within MDT right-of-way or construction easements would be reclaimed and revegetated utilizing MDT standard specifications. To reduce the spread of noxious weeds at open water or wetland sites during construction, the contractor would comply with relevant permit conditions that may require cleaning equipment (power wash with soap) prior to leaving or entering the project corridor to preclude the transfer of seeds into other areas.

Wildlife

Montana Species of Concern

Peregrine falcons nesting sites have been documented within one mile of a proposed improvement area. As such, there is the potential that blasting or use of aircraft for construction during March through July could disrupt the nesting period.

General Wildlife Resources

Noise produced by construction equipment on the proposed project would occur with varying intensity and duration during the phases of construction. However, because of the different phases of construction, no single location would experience a long-term period of construction noise. Use of loud equipment or explosives near ungulate winter range during the Spring (March - May) could impact bighorn sheep, moose and elk, which are particularly vulnerable during this time of the year. Although no pre-split or large scale production blasting would be required at any of the sites, trim blasting and small scale production blasting may be necessary at the Red Cliff, Karst Ranch, Swan Creek and Greek Creek Areas. As discussed in Section 3.4.6, Wildlife, all of these proposed improvement areas fall within ungulate winter range.

Wildlife populations found near the improvement areas are likely to be accustomed to periodic noise intrusions due to highway traffic and noise from local residents. Some brief displacement of wildlife populations may occur during construction in the improvement areas, but the animals would likely return after construction is completed. Therefore, the construction impacts on these species would be minimal.

Migratory bird species could be impacted during construction by removal of bridges, trees, shrubs or other woody vegetation occupied by active bird nests. Appropriate measures should be taken to adhere to the Migratory Bird Treaty Act (MBTA).

The introduction of chemicals or runoff from construction activities could contribute to survivorship of species, such as amphibians, that rely on water bodies. This impact would be minimized because these water bodies are already receiving sediment and contamination from runoff.

Mitigation

If power lines are constructed or modified, they would be raptor-proofed in accordance with MDT policies. BMPs would be incorporated into construction projects to minimize water quality impacts.

If necessary, a special provision would be included in the construction bid package to address construction activities within one mile of a known raptor nest, directly affecting any nesting birds, during the spring. The GNF has identified active falcon nest locations and the necessary spring timing restrictions to MDT for these purposes.

To minimize the potential for construction related impacts to bighorn sheep, moose and elk, timing restrictions during the spring for construction activities and/or blasting within one mile of ungulate winter range would be considered by MDT based on recommendations from the GNF and MFWP.

MDT would stake the construction limits prior to initiating any construction activity that would result in the potential removal of trees. All trees to be removed would be flagged and the removal of such trees would be coordinated on-site with the USFS Gallatin National Forest. A special provision would be included in the bid package to address this issue.

The GNF would provide any known locations of active migratory bird nests prior to construction. If necessary, a special provision regarding the protection of actively nesting birds would be included in the bid package.

Fisheries

Temporary impacts to fisheries may occur during the bridge replacement/construction phase of this project due to increased human-related disturbance and in-stream work that would be necessary in these areas. There would also be an increase in localized human-related disturbance in the vicinity of the improvement areas during construction, which may temporarily disturb fish species if they are present.

Potential temporary impacts to fisheries from the proposed project which were evaluated include effects to individuals that may be present during construction, including (1) mortality, (2) impediment of fish passage, and (3) displacement of individuals from the project corridor. Disruption of spawning habitat due to release of substrate during construction was also evaluated.

Bridge construction and the installation of slope stabilization structures would require work within and immediately adjacent to the Gallatin River, West Fork Gallatin River and Swan Creek. These actions are likely to increase sediment and turbidity levels in these water bodies during and immediately following construction. Such increases could have temporary adverse effects on fish species if they are present within the action area downstream of the bridges. In addition, upstream fish passage could be impeded during replacement the bridges at Swan Creek and West Fork Gallatin.

Substrate released during construction can fill voids in downstream gravel thereby reducing its suitability for spawning. Both Swan Creek and the West Fork Gallatin River are important spawning streams for the rainbow trout in the Gallatin River. Trout species in the canyon, including rainbow, brown and Westslope cutthroat, typically begin to move in mid-November and spawn throughout late spring. Therefore, the proposed project may affect trout species because of substrate released during construction activities in and adjacent to these water bodies.

Mitigation

Fill of any kind into the Gallatin River or its tributaries would be minimized. BMPs and a SWPPP would be incorporated into construction projects. Fish passage would be maintained during construction activities. Compliance with water quality permits; SPA 124 and COE 404 permit conditions would be followed during construction including any timing restrictions on in stream work issued as a provision of the SPA 124 Permit.

Threatened and Endangered Species

Bald eagle. Temporary effects to wintering and/or migrant bald eagles would include human-related disturbance during construction. Disturbance levels during construction of the project would be noticeably greater than existing levels of visual and noise disturbance and would likely preclude eagle presence in the project vicinity while underway. Such potential effects would last only through the construction phase of the project. Considering the localization of proposed construction disturbance at ten different improvement areas near the Gallatin River and its tributaries, potential disturbance effects to wintering and migrant bald eagles would be for short duration and no wintering timing restrictions are suggested.

Canada lynx. Temporary effects to lynx are limited to displacement of lynx from noise disturbance during construction. The proposed project would result in an increase in localized noise levels in the vicinity of the project improvement areas during construction. Construction noise may displace lynx from important foraging areas, but the animals would likely return after construction is completed. Therefore, the noise effects on this species would not be significant.

Grizzly bear. Temporary effects to grizzly bears are limited to displacement of grizzly from noise disturbance during construction. Noise from construction may displace bears, but the animals would likely return after construction is completed. Therefore, the noise effects on these species would not be significant. During construction, human activities at construction sites and construction personnel camping sites could attract bears into the project area.

Gray wolf. Temporary effects to gray wolves are limited to the displacement of gray wolves from noise disturbance during construction, but the animals would likely return after construction is completed. Therefore, the noise effects on these species would not be significant.

Fluvial Arctic grayling. Temporary effects to grayling from the proposed project may include possible fish mortality and displacement of individuals from the project corridor due to sedimentation as a result of work in and near water bodies. Due to the human-related disturbance, grayling would not likely be present in the project improvement areas during construction after the initial disturbance. Therefore, direct mortality is very unlikely to occur.

Increased sediment and turbidity levels in these water bodies would occur during and immediately following construction. Such increases could have adverse effects on grayling if they are present within the action area downstream of the bridges, however the introduced grayling are not a viable population in the project corridor.

Mitigation

If power lines are constructed or modified, they would be raptor-proofed in accordance with MDT policies. Although no documented bald eagle nesting sites are present in the project corridor, closer to the start of construction, a biologist would verify that there are no nests. If nests were found in the project corridor, MDT would consult with USFWS and MFWP prior to the start of any construction activities.

The main consideration of impacts to bald eagles, lynx, grizzly bears and gray wolves associated with this proposed project is the removal of riparian habitat that may be used as foraging habitat or movement corridors. If this riparian habitat is impacted, re-planting or supplemental planting of riparian vegetation would mitigate for this loss.

In addition, measures would be implemented at construction sites and personnel camping sites to minimize the potential for attracting grizzly bears into the project area.

Fill of any kind into the Gallatin River or its tributaries would be minimized. BMPs and a SWPPP would be incorporated into construction projects. Fish passage would be maintained during construction activities. Compliance with water quality permits; SPA 124 and COE 404 permit conditions would be followed during construction.

Air Quality

Impacts to air quality related to construction would be limited to short-term increases in fugitive dust and mobile source emissions.

Fugitive dust is airborne particulate matter that cannot reasonably be captured through a control device. Trucks and other earth-moving vehicles operating around the construction sites would generate construction-related fugitive dust. The dust would be due primarily to particulate matter re-

suspended by vehicle movement over paved and unpaved roads and other surfaces, dirt tracked onto paved surfaces from unpaved areas at access points, and material blown from uncovered haul trucks.

Generally, the distance that particulate matter drift from their source depends on their size, emission height, and wind speed. Small particles (30 to 100 microns) can travel several hundred feet before settling to the ground, depending on wind speed. Most fugitive dust, however, is made up of relatively large particles (i.e., particles greater than 100 microns on diam). These particles are responsible for the reduced visibility often associated with highway construction. Given their relatively large size, these particles tend to settle within 6 to 9 m (20 to 30 ft) of their source.

Carbon monoxide (CO) is the principal pollutant of concern when considering localized air quality impacts of motor vehicles. Because CO emissions from motor vehicles increase with decreasing vehicle speed, disruption of traffic during construction is likely to result in short-term, elevated CO concentrations.

Mitigation

Contractors would be required to adhere to all state and local regulations and to BMPs to minimize fugitive dust and mobile source emissions. Measures to reduce fugitive dust from construction may include minimizing exposed erodible earth area to the extent possible; stabilizing exposed earth with grass, mulch, pavement or other cover as soon as possible; and applying water or stabilizing agents to the working and haulage areas. To minimize additional vehicle emissions, a construction traffic control plan would be developed to limit disruption to corridor traffic.

3.6 CUMULATIVE IMPACTS

Cumulative impacts are those that result from the incremental impact of the action, when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Reasonably foreseeable future actions are those that likely to occur rather than speculative or merely possible.

Cumulative impacts would not be expected for resources not present in the corridor or where no impacts were identified for this proposed project. Therefore, the following resources would not be addressed in the cumulative impacts section:

- Cultural Resources
- Energy
- Environmental Justice
- Farmlands
- Local and Regional Economics
- Noise
- Wild and Scenic Rivers
- Section 4(f) Properties
- Parks and Recreation/NL&WCF – Section 6(f)
- Hazardous Materials
- Economic Resources
- Air Quality
- Utilities

3.6.1 Past and Present Actions

The highway was the critical element to development of Gallatin Canyon in the early 1900s (Axline 1996) and continues to be the major roadway connecting land uses in the project area as well as connecting the communities of West Yellowstone, Gallatin Gateway, and Bozeman. It provides the principal access for residences, businesses, and industrial/agricultural operations located along or near the project area, as well as the primary route for visitors to the public and private recreation lands in the corridor.

Roadway Projects

The following project just north of the project corridor is near completion:

- Turn Bays – South of Gallatin Gateway
NH 50-2(38)73 4008
US 191, MP 73.2 [length -1.9 km (1.2 mi)]

Development

Gallatin County was created in 1865. Original development of the area consisted of lumber, ranching, and mining followed soon after (in the 1920s) by dude ranches/tourism. Prior to 1970, private lands interspersed between public lands near US 191 consisted largely of ranches, agriculture, and timber operations. Over the past thirty years, land uses have increasingly converted from these traditional uses to residential and recreation uses. In the past decade, more than 6,880 ha (17,000 ac) of agricultural land has been divided and developed. This conversion of land has been driven by lower net income derived from agriculture and the profitability of subdividing land for housing rather than farming or ranching. The combination of falling agriculture profits and residential housing demands has led to increased subdivision of agricultural lands.

Ski Areas

There are two large, public ski areas within the project area. The Big Sky Ski Area was developed in 1973 and has undergone consistent expansion. In April 2001, the owner (Boyne USA) announced a 10-year plan which would include \$400 million in improvements to the Village and ski terrain at Big Sky. The Moonlight Basin Ski Area, which opened in 2003, is the most significant private land in the project area to be developed recently. It is located approximately 1.9 km (1.2 mi) beyond the Big Sky Ski Area, just over the border from Gallatin to Madison County. The area consists of a total of 10,117 ha (25,000 ac), of which 1,518 ha (3,750 ac) is planned for development. Most of the planned development is for vacation homes; 50 homes or home sites are currently for sale in this area. The land for the Moonlight Basin Ski Area was acquired from a private commercial logging and lumber operation.

Population and Residential Housing Growth

The population of the area also has increased substantially during the past ten years, averaging more than three percent annually since 1970. Between 1990 and 1999, 288 subdivisions with 3,099 lots were approved in Gallatin County. Total land area for these subdivisions was 3,580 ha (8,850 ac). An additional 211 parcels were subdivided into 269 lots under the Family Transfer Exemption, which allows Montanans to subdivide property and transfer it to family members without meeting the normal requirements of subdivisions (Gallatin Planning Department 2003).

Land use permits for construction increased 61 percent between 1999 and 2000, and by 423 percent between 1995 and 2000. Between 1990 and 2000, the Gallatin County Commission gave final approval to 323 subdivisions for a total of 31,144 lots. From 1994 through 2000, more than 9,660 acres were subdivided; 44 percent of that subdivision occurred outside zoned areas. In the unzoned areas, the average lot size created was more than 4.9 acres.

Environmental Protection

Development pressures in the region are balanced somewhat by progressive environmental protection initiatives. Conservation measures have been initiated and adopted from private and public entities, including private land owners, Gallatin County Commissioners and residents, and state and federal land owners/managers.

The Gallatin County Commissioners and County residents have increasingly sought growth management policies and protections to limit and control sprawl in the region. By the end of 2000, private land owners had placed more than 27,520 ha (68,000 ac) of land within Gallatin County in conservation easements. In November 2000, Gallatin County voters approved a \$10 million Open Space Bond, which aims to protect 4856 to 7284 ha (12,000 to 18,000 ac) of agricultural lands from being developed. To date, five properties totaling 674 ha (1,666 ac) have been purchased. The Gallatin County Commissioners also have rejected several large residential developments because of environmental and growth concerns in the area and is reviewing a policy to require donation of conservation easements as part of new development plans. In 2003, Gallatin County Commissioners passed a Growth Policy, which places restrictions on growth in the zoned and unzoned areas in the county.

As part of the commercial development of Moonlight Basin, the developers have initiated a number of environmental programs intended to restore wildlife habitat and ecological values in parcel, which had been degraded by past timber practices and a pine beetle infestation. Plans for the site stipulate more than 85 percent of the land would remain undeveloped.

A donation by a private land owner to the GNF was recently completed for 166 acres near the Meadow Village in Big Sky. The steep and forested land provides habitat for elk and bighorn sheep and adjoins GNF land on the north and east.

The USFS, in cooperation with conservation groups, has purchased significant land areas for incorporation into the Gallatin National Forest and has been focused on wildlife habitat preservation in the corridor. In two large land acquisitions, the GNF acquired more than 100,000 acres of land from the Big Sky Lumber Company holdings within the forest boundaries, consolidating and eliminating much of the “checkerboard” land ownership within GNF. Between 1990 and 2002, the USFS and MFWP have acquired or placed in trust 15,076 acres of land in the Taylor Fork area. The most recent acquisition completed in 2002 involved 3,247 acres from the 320 Ranch (USFS 2002).

In addition to land consolidation, the USFS has removed more than 50 miles of low-quality roadways within GNF to improve habitat. In 2001, the Regional Forester signed a decision that bans cross-country (i.e., off road or trail) motorized travel within Montana National Forests. In 2003, the National Park Service implemented a similar policy in Yellowstone National Park to the south of the project area.

Also in the corridor, MFWP, with assistance from federal funds, purchased 638 ha (1,576 ac) of land adjacent to US 191 as a wildlife management area. MFWP has acquired additional parcels for wildlife protection within the County but not adjacent to the project area.

Another project in the corridor involved stream restoration. The portion of Beaver Creek downstream of the US 191 culvert crossing was restored in the summer of 2001 through a partnership between MDT, Trout Unlimited and MFWP. This restoration enhanced stream morphology and eliminated the barrier to fish at this location.

3.6.2 Reasonably Foreseeable Future Actions

Roadway Projects

MDT has several minor roadway projects proposed for the US 191 corridor (Table 3.18). All of these projects are in the Gallatin River watershed, a subset of the Missouri River watershed. The only one of these projects that falls within the project corridor is the Yellowstone Park – Big Sky pavement preservation project. The project limits of the Yellowstone Park – Big Sky project would intersect the following improvement areas for the Gallatin Slope Flattening/Widening project: Red Cliff Area, Section House Area, and Big Sky Area. The other proposed projects listed in the STIP would occur either north or south of the project corridor along US 191.

Table 3.17 Proposed Projects Along US 191 Identified in 2004-2006 MDT STIP

Project Name	MDT#	CN#	Project Limits	Watershed	Project Description
Yellowstone Park – Big Sky	NH 50-2(44)31	4800	US 191, MP 31.2 [length - 27.0 km (16.8 mi)]	Missouri River	Pavement preservation
Pedestrian Tunnel – Gallatin Gateway	NH 50-2(48)76	4582	US 191, MP 76.3	Missouri River	Pedestrian walkway
Jct. US 287 – North	NH 50-1(21)9	5468	US 191, MP 8.5 [length - 3.2 km (2.0 mi)]	Missouri River	Pavement preservation
West Yellowstone – North	NH 50-1(22)0	5469	US 191, MP 0.0 [length - 5.6 km (3.5 mi)]	Missouri River	Pavement preservation
Erosion Protection - Gallatin Canyon	NH 50-2(49)57	5103	US 191, MP 57.0 – 61.6	Missouri River	Spot Improvement
2001 – Grayling Creek – N. of US 20	STPHS 50-1(20)10	5026	US 191, MP 9.7 – 10.7	Missouri River	Bridge Replacement
Jct. US 287 – South	NH 50-1(23)4	5470	US 191, MP 3.5 [length - 8.1 km (5.0 mi)]	Missouri River	Pavement preservation

Source: 2004 - 2006 Montana State Transportation Improvement Program.

In addition to MDT planned projects, the Gallatin National Forest also has several roadway projects planned in the area and is in the process of updating its Travel Management Plan for the Forest, which may result in further changes to GNF roadways.

- The USFS intends to relocate and construct a new road and bridge near Buffalo Horn Road (USFS 2002). The 4.3-m (14-ft) wide, 1.8-km (1.1-mi) long gravel road and low-profile bridge would connect US 191 to the Buffalo Horn trailhead. Timing of the action is dependent on funding.
- The USFS intends to build a new bridge at Taylor Fork Road near the southern end of the project limits.
- USFS plans to remove and restore approximately 37 km (23 mi) of low quality roadways, fences, and bridges that served now restricted timber and grazing operations in the Taylor Fork Area (USFS 2002).
- As part of its ongoing program to improve wildlife habitat within GNF, USFS plans to continue low-quality road removal and consolidation within the GNF boundaries.

- Alternatives for the Travel Management Plan have been circulated for public comment (USFS 2003). The DEIS was released on February 10, 2005. Alternatives under consideration for the Travel Management Plan range from existing conditions, to closure and consolidation of roadways, to moderate to heavy restrictions on motorized travel within the forest.

Population Growth and Development

Current population and housing predictions from Gallatin County Planning Department outline similar population growth in the County in the future with the population nearly doubling again to nearly 120,000 by 2030. To meet housing demand, approximately 640 new homes would be needed in the next decade. If population trends continue, population growth outside the incorporated towns in the County would outpace population growth within towns, and more farmland would be converted to residential use. Based on the average density in rural areas, Gallatin County Planning Department estimates rural dwellings would utilize more than 3,367 ha (8,320 ac) of land (about 0.5 percent of total land area in the County).

To support population growth in the County, other permanent residential developments are reasonably foreseeable. In addition to numerous small additions and minor construction projects, several larger projects are reasonably foreseeable. According to the Gallatin County Planning Department database, more than 400 individual buildings (single and multi-family homes, single commercial structures, small (20 units or fewer) condo buildings) have been approved for new construction or renovation in the past three years in the Big Sky Zoning District. Some of these are currently under construction or planned for construction within the next three to five years. Larger subdivisions that are approved or under construction in the Big Sky Zoning District are listed in Table 3.19.

Table 3.18 Subdivisions in Big Sky that are Approved or Under Construction

Project Name	Description and Status	Lots/Units	Acres
Antler Ridge	Residential subdivision; approved 2002	65	239
Crail Creek	Residential subdivision; approved 2000	~20 units	Unknown
Fire Light	Residential subdivision; approved in 2001 and 2002; approximately half constructed	150 condo units plus 40 lots	Unknown
Gallatin Peaks	Development of Gallatin Peaks town; preliminary approval; not yet started	~50+ commercial lots; ~100+ residential lots	100+
Lone Moose Meadows	Residential condo subdivision; approximately 10 percent complete	400+ units	Unknown
Porcupine Park	Residential subdivision; approximately 11 to 15 percent complete	44 lots	462
Ramshorn	Residential subdivision on US 191; approximately 50 percent complete	92	73
South Fork	Residential and commercial subdivision; 50 to 65 percent complete	44 residential lots; 5 commercial lots	21
Spanish Peaks	Residential subdivision; less than 50 percent built; base area and golf course also approved but not yet constructed	Unknown	550+

Environmental Protection

The Gallatin National Forest continues to pursue opportunities to consolidate public lands within the forest boundaries. A 416-acre land acquisition is proposed for the Duck Creek Wetlands near the

intersection of US 191 and US 287 south of the project area one mile west of Yellowstone National Park and one mile east of Hebgen Lake for migrating wildlife protection and grizzly bear habitat.

Gallatin County would continue programs to acquire open space and is considering expanding its conservation easement protection program to provide tax incentives to leave lands, particularly those with high wildlife values, undeveloped.

3.6.3 Impacts

The presence of US 191 has altered the natural environment and created adverse impacts to biological resources, air quality, and visual resources. It has also increased noise and enabled development of the area for agriculture, tourism, logging and mining operations, and residential housing and commercial development. The development of the area also has had positive economic effects from these industries.

Implementation of the Build Alternative is not expected to result in induced additional growth or otherwise substantially increase existing impacts on resources. There are no specific future development activities currently known that are dependent on the project and that would not proceed without the implementation of the proposed project. While land development plans exist in the project area, none of the plans are directly tied to highway improvements.

Increasing presence and environmental stewardship on the part of the Forest Service, MFWP (Wildlife Management Area), Yellowstone National Park, and Gallatin Open Space have resulted in improved environmental conditions for fish and wildlife and air and water quality in the project area. Traditionally environmentally destructive activities, such as mining and timber harvests, have been substantially curtailed in recent years.

Water Resources and Wetlands

Past, present and foreseeable future actions in the project area include road construction, roadway use and maintenance, development, and timber harvesting activities. The effect of these actions could contribute to increased contaminants and sediments from runoff to water resources and wetlands, resulting in water quality impacts and the loss of wetlands.

Road construction. The turn lanes and pedestrian walkway projects listed in Table 3.17 may affect water resources and wetlands in the Gallatin River watershed. Contamination and sedimentation impacts to water resources from these projects would be minimal because of the use of BMPs and compliance with water quality permits during construction. MDT's policy is to avoid and minimize impacts to wetlands. If wetlands were impacted as a result of an individual highway project, MDT would mitigate for wetland impacts. Thus, because each individual project, including the proposed project, mitigates for its own impact to water resources and wetlands, individual highway project impacts would be minimal.

Roadway use and maintenance. The general use and maintenance of roads introduces chemicals (runoff) into water resources and wetlands increasing contamination. Runoff from bridges can increase loading of hydrocarbons, heavy metals, and toxic substances directly into water resources and wetlands. These activities are expected to continue and would impact water quality.

Development. There are numerous Federal, County and private development proposals in the project area. Impacts to water resources from development may include an increase in volumes of stormwater

(runoff), which can contaminate water resources. Wetland impacts from development includes increased runoff and loss of wetlands.

Generally, planning initiatives of the USFS have been undertaken to protect or enhance ecological values in the Gallatin National Forest and therefore would have a beneficial effect on water resources and wetlands in the project area. In addition, Gallatin County has taken an active role in preserving open space in the area, including acquiring lands or conservation easements. The primary type of development in the project area is the construction of second homes. This project is not likely to contribute to increased development.

Timber harvesting. Impacts to water resources and wetlands from timber harvesting include contamination and sedimentation. Extensive historical timber harvesting occurred in the Gallatin Canyon in the early 1880s. This project would not likely increase timber harvesting in the project area, however, timber practices involving road building and logging would continue on lands in the Gallatin National Forest.

The past, current, and future road construction use and maintenance, land development, and timber harvesting activities would continue, resulting in impacts to water quality, water resources, and wetlands. However, these impacts are tempered by the beneficial impacts associated with the land preservation activities. Therefore, the proposed project, when added to these past, present and future actions, would not significantly increase the cumulative amount of contaminants and sedimentation into water resources and wetlands in the project area. In addition, due to MDT's policy of mitigating on a project by project basis for wetlands, this project would not contribute to the cumulative loss of wetlands resulting from other activities.

Floodplains. Past actions such as locating US 191 in the Gallatin River floodplain have compromised the Gallatin River. In some cases, the highway embankments form new manmade edges of the floodplain. These past actions coupled with the proposed improvements of US 191 would continue these conditions. In addition, the West Fork Gallatin River and Swan Creek bridge reconstructions, along with the widening of the roadway at specified locations as proposed in the Gallatin Canyon Slope Flattening/Widening build alternative, would add fill to the 100-year floodplain in the project area. Overall development of the 100-year floodplain is currently minimal and none of the proposed projects would substantially increase fill. Although there are cumulative impacts of these combined actions, they are not considered significant and the incremental impacts of floodplain development are negligible from the proposed project.

Vegetation

Numerous activities contribute to the reduction of riparian habitat. Road construction, development and timber harvesting activities are all contributing factors to habitat alteration. Although road construction, future development (e.g. in the Big Sky area) and timber harvesting activities may continue to occur in the project corridor, the proposed project is not expected to contribute to these activities. While cumulative effects to riparian habitat would likely occur from these activities, these impacts are not significant. The proposed project itself when compared to all the other activities would contribute only minor effects to cumulative effects to riparian habitat.

Wildlife

Wildlife may be displaced temporarily in the Gallatin Canyon from construction noise from ongoing MDT projects. Loss of habitat, habitat fragmentation and alteration, and wildlife mortality are impacts from the existing roadway. MDT's projects (future and ongoing) generally occur adjacent to an

existing roadway and more suitable habitat exists in the areas outside the highway right-of-way. Development and timber harvesting activities would continue in the project area, contributing to the displacement of wildlife from loss of habitat and human disturbances (noise and visual). The proposed project accounts for a negligible incremental contribution to the cumulative effects when added to the past, present and foreseeable future road construction, development and timber harvesting activities in the project vicinity.

Fisheries

Road construction, development, timber harvesting activities and many other forms of human activity individually and collectively, would contribute to cumulative effects of fisheries, including the fluvial Arctic grayling (Threatened and Endangered Species) in the project corridor. Individually, most transportation projects do not result in significant impacts to water quality. Increased contaminant and substrate input, increased water temperature, loss of riparian vegetation and change in peak/base flows may affect fisheries by impacting water quality. Future growth in the Gallatin River watershed, primarily from additional residential and commercial development may negatively affect the water quality of the Gallatin River and tributary streams in the project corridor and hence grayling if they are present.

Unlike development and timber harvesting activities, the effects from construction projects such as the US 191 road improvement project are generally of short duration. Therefore, the incremental effect on fisheries from the proposed safety improvements, compared to other future activities in the Gallatin River watershed are expected to be negligible.

Threatened and Endangered Species

Bald eagle. Numerous activities contribute to the reduction of bald eagle habitat. Road construction, development, timber harvesting and many other forms of human activity are all contributing factors to habitat alteration. While cumulative effects would likely occur from these activities in bald eagle habitat, these impacts are not significant. The proposed project itself when compared to all the other activities would contribute only minor cumulative effects to bald eagle habitat alteration.

Canada lynx, grizzly bears and gray wolves. Disturbance in the project corridor from road construction, development, timber harvesting activities and many other forms of human activity are all contributing factors to habitat alteration and fragmentation. While cumulative effects would likely occur from these activities in lynx, grizzly bear, gray wolf and potential prey species habitat, the proposed project itself when compared to all the other activities would contribute only minor cumulative effects to habitat alteration.

Potential increases in vehicle-related mortality to lynx, grizzly bears, gray wolves and their prey species is another long-term effect. Traffic volume is expected to increase with future development. With increases in traffic, the potential for animal-vehicle collision occurrences can increase. However, these safety improvements would not be a contributing factor to growth in development or its associated traffic. Therefore, this project's contribution to the cumulative increases in traffic or the potential for increased mortality as a result of increased traffic would be negligible.

Visual Impacts

Cumulative impacts to visual resources could result if other highway or development projects involve tree removal or slope stabilization structures along the Gallatin River. However, these actions are not planned or reasonably foreseeable from MDT or other private or public groups and therefore cumulative impacts are not likely.

4.0 PERMITS REQUIRED

The permits and approvals listed below will be required and must be obtained prior to any construction:

- Section 402/Montana Pollutant Discharge Elimination System authorization from MDEQ Permitting and Compliance Division. The MPDES permit requires a storm water pollution prevention plan that includes a temporary erosion and sediment control plan. The erosion and sediment control plan identifies BMPs, as well as site-specific measures to minimize erosion and prevent eroded sediment from leaving the work zone.
- Clean Water Act Section 404 permit from the US Army Corps of Engineers for any activities that may result in the discharge or placement of dredged or fill materials in waters of the US, including wetlands.
- SPA 124 Permit from the MFWP-Fisheries Division. The SPA permit is required for projects that may affect the bed or banks of any stream in Montana.
- Short-Term Water Quality Standard for Turbidity related to construction activity (318 Authorization) from the MDEQ-Water Quality Bureau for any activities that may cause unavoidable violations of state surface water quality standards for turbidity, total dissolved solids or temperature.
- For the improvement areas where the 100-year floodplain has been delineated and construction encroaches on the 100-year floodplain, a Montana Floodplain and Floodway Management Act Floodplain Development Permit from Gallatin County Planning Department would be required.

5.0 COMMENTS AND COORDINATION

5.1 AGENCY CONSULTATION

During the preparation of the Gallatin Canyon Environmental Assessment, the following agencies were contacted to obtain baseline information and/or to discuss the potential impacts of the proposed action. These agencies and organizations were also provided with an opportunity to comment on the proposed project:

- Montana Department of Environmental Quality
- Gallatin County
- Montana Department of Natural Resources and Conservation
- Montana Fish, Wildlife and Parks (*124SPA* permit)
- Montana Natural Heritage Program
- Montana State Historic Preservation Office
- U.S. Army Corps of Engineers (*Clean Water Act - Section 404* permit)
- USDA - Gallatin National Forest
- USDA - Natural Resources Conservation Service
- U.S. Fish & Wildlife Service

Responses from these agencies and organizations are provided in Appendix B. Ongoing coordination will take place with these and other reviewing agencies during subsequent phases of the project.

5.2 COOPERATING AGENCIES

Of the agencies listed above, five were requested to be cooperating agencies based on the possibility of issues related to the proposed project.

- Gallatin County, Montana
- Montana Department of Natural Resources and Conservation
- Montana Fish, Wildlife, & Parks
- USDA - Gallatin National Forest
- U.S. Army Corps of Engineers

Cooperating agencies are those that assist in the review process of the Environmental Assessment. These agencies help to determine and review the issues that need to be addressed during the environmental documentation process. They also provide input on mitigating impacts to environmental resources that result from the projects. The following are the agencies that agreed to be the cooperating agencies for the proposed project:

- USDA - Gallatin National Forest
- U.S. Army Corps of Engineers

The Montana Department of Natural Resources and Conservation and Montana Fish, Wildlife & Parks did not accept or decline the request to be a cooperating agency, but did respond with information regarding agency concerns and/or recommendations (Appendix B). Gallatin County did not respond to either of two letters requesting their participation as a cooperating agency.

5.3 PUBLIC INVOLVEMENT

MDT is committed to an active, meaningful, and participatory program of public and agency involvement throughout the Gallatin Canyon Slope Flattening/Widening Project. As the project has progressed, MDT has been actively working with local, regional, state, and federal reviewing agencies

regarding the potential beneficial and adverse impacts associated with the proposed actions. In addition, MDT has been committed to bringing information about the project to residents of the area as both a means of keeping people informed about the progress made on the project and to listen to ideas and concerns. To date, the following public meetings have been held.

Gallatin Canyon Safety Improvement Project – Phase I

No meetings held.

Gallatin Canyon Slope Flattening and Widening – Phase II

The first public meeting was held on June 3, 1999 at Bucks T-4 Lodge in Big Sky. The meeting was conducted by MDT staff to solicit input from the area residents and other interested parties about the desired safety improvements in the project corridor.

The second public meeting was held on August 28, 2002 at Buck's T-4 Lodge in Big Sky. The meeting was conducted by MDT staff to share information with area residents about the proposed improvements and solicit feedback.

5.4 OPPORTUNITIES FOR COMMENTS

This Environmental Assessment is available to review at the following locations:

- Bozeman Public Library, 220 East Lamme, Bozeman
- Ophir School District and Library, 45465 Gallatin Road, Gallatin Gateway
- Big Sky Post Office, Big Sky
- West Yellowstone Public Library, 220 Yellowstone Avenue, West Yellowstone
- MDT Butte District Office, 3751 Wynne, Butte
- MDT Environmental Services Office, 2701 Prospect Ave., Helena
- Gallatin County Offices, 311 West Main, Bozeman

A copy of this document is also available from Jean Riley, MDT Environmental Services at the address listed below.

Written comments related to this document will be accepted during the Public Comment Period, which ends on the date specified on the title sheet of this document. Please direct comments to:

Jean Riley, P.E.
MDT Environmental Services
2701 Prospect Avenue/P.O. Box 201001
Helena, MT 59620-1001
Email address: jriley@state.mt.us
Fax number: 406-444-7245

A public hearing will be held during the Public Comment Period for the public, including agencies, to express their comments verbally. This meeting date and location will be announced in the local papers including the *Bozeman Daily Chronicle*, the *Lone Peak Lookout*, and the *West Yellowstone News*.

6.0 LIST OF PREPARERS

The following is a list of the project team that participated in the environmental documentation process for the Gallatin Canyon Slope Flattening/Widening Project.

6.1 AGENCIES

Montana Department of Transportation – Helena

Jean Riley, P.E., Engineering Services Bureau Chief

Barry Brosten, Environmental Planner

Lesly Tribelhorn, Highways Design Engineer

Jim Davies, Project Design Engineer

Roger Schultz, Design Supervisor

Dennis Dietrich, Designer

Bryan Miller, Bridge Area Engineer

Walter Ludlow, Hydraulics Designer

Deborah Wambach, Butte District Biologist

Jon Axline, Historic Resources

Cora Helm, Air Quality, Noise, Contaminated Sites

Montana Department of Transportation – Butte District

Jeff Ebert, District Administrator

Joe Olsen, Engineering Services

Zach Cunningham, Right-of-Way

Federal Highway Administration

Jeffrey Patten, Operations Engineer

Carl James, Environmental Specialist

6.2 CONSULTANTS

David Evans and Associates, Inc.:

Prepared environmental documentation.

- Debra Perkins-Smith, AICP, Consultant Team Project Manager
- Laura Meyer, AICP, Environmental Planner
- Chad Ricklefs, AICP, Environmental Planner
- Rich Garcia, GIS Specialist
- Jerry Powell, Wildlife Biologist
- Martha Wiley, Biological Task Leader
- Sue Platte, Biologist

Bionomics Environmental:

Performed traffic noise impact analysis.

- David Aspitarte, Noise Modeling

Hyalite Environmental:

Performed hazardous materials assessment.

- Chris Thelen
- Carol Roark

7.0 DISTRIBUTION LIST

7.1 FEDERAL AGENCIES

U.S.D.A. GALLATIN NATIONAL FOREST
Supervisor's Office
PO Box 130
Bozeman, MT 59771
Gene Gibson

U.S. ARMY - CORPS OF ENGINEERS (CoE)
Helena Regulatory Office c/o MDNR&C
10 West 15th Street, Suite 2200
Helena, MT 59626-0014
Mr. Allan E. Steinle, Montana Program Manager

U.S. FISH AND WILDLIFE SERVICE
Montana Field Office
100 N. Park, Suite 320
Helena, MT 59601
Mr. Scott Jackson, Wildlife Biologist

7.2 STATE AGENCIES

MONTANA FISH, WILDLIFE & PARKS
1400 South 19th Street
Bozeman, MT 59718
Mr. Patrick Flowers, Regional Supervisor

MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION
Bozeman Field Office
151 Evergreen Dr., Suite C
Bozeman, MT 59715
Scott Compton, Regional Manager

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Lee Metcalf Building
1520 East Sixth Avenue, PO Box 200901
Helena, MT 59620-0901
Tom Ellerhoff, Administrative Officer

7.3 LOCAL AGENCIES

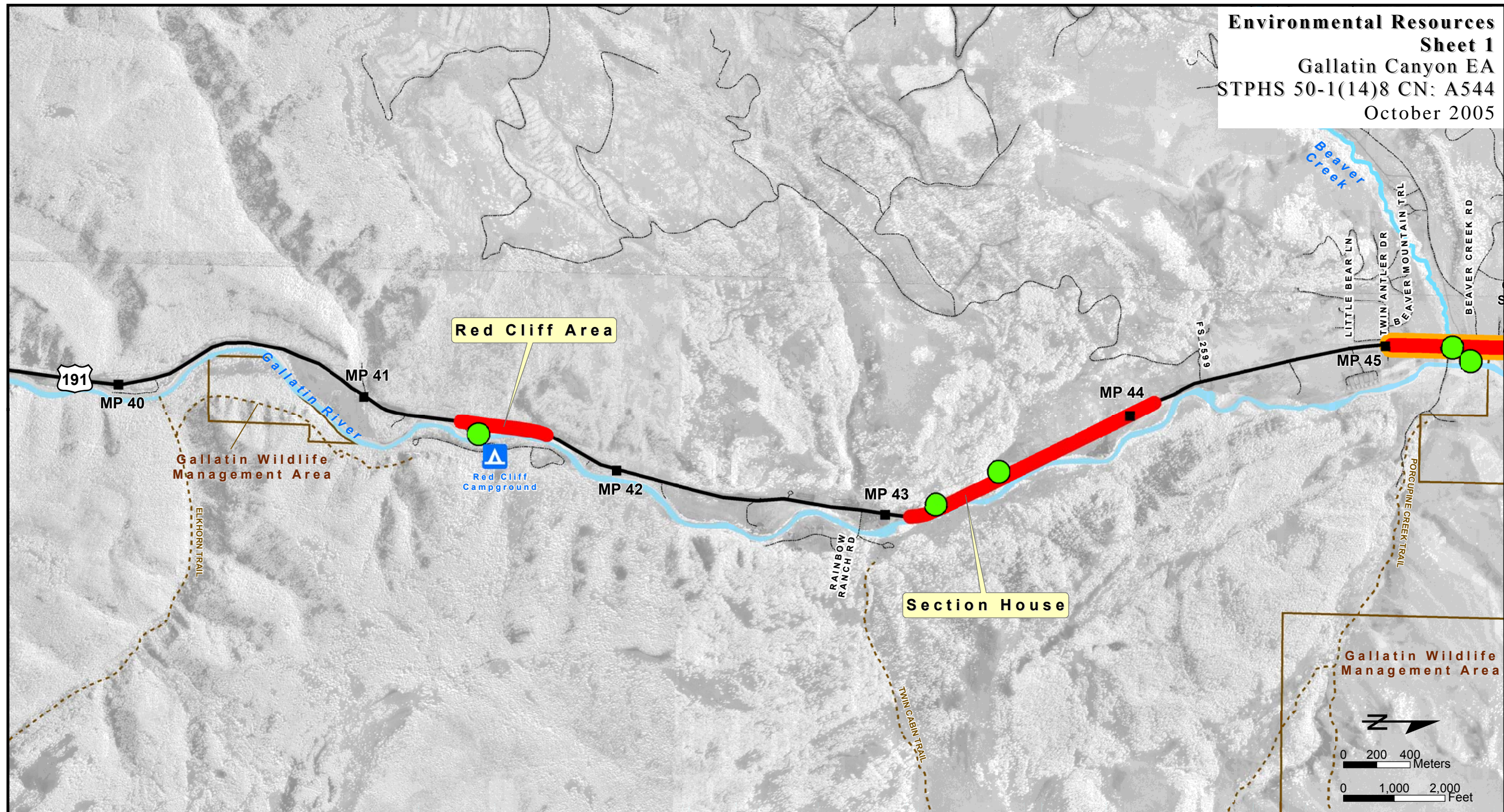
GALLATIN COUNTY
Gallatin County Courthouse
311 West Main, Room 301
Bozeman, MT 59715
Mr. John Vincent, County Commissioner – Chairman

7.4 OTHER ORGANIZATIONS

BIG SKY CHAMBER OF COMMERCE
PO Box 160100
Big Sky, MT 59716

AMERICAN WILDLANDS
40 East Main Street, Suite 2
Bozeman, Montana 59715

Appendix A – Environmental Overview Maps

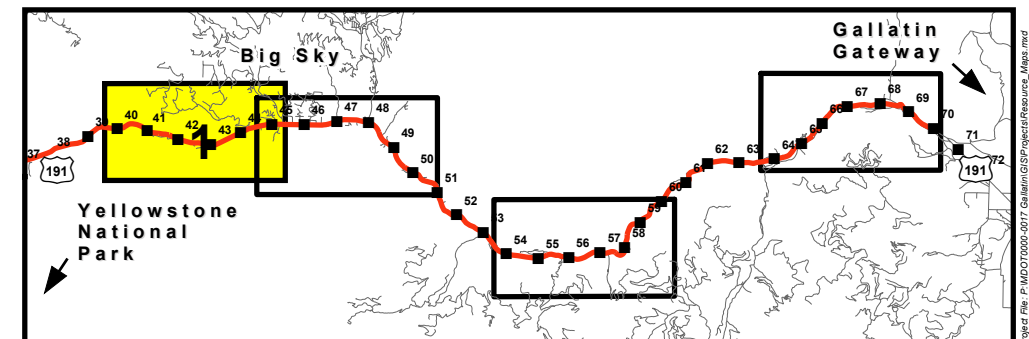


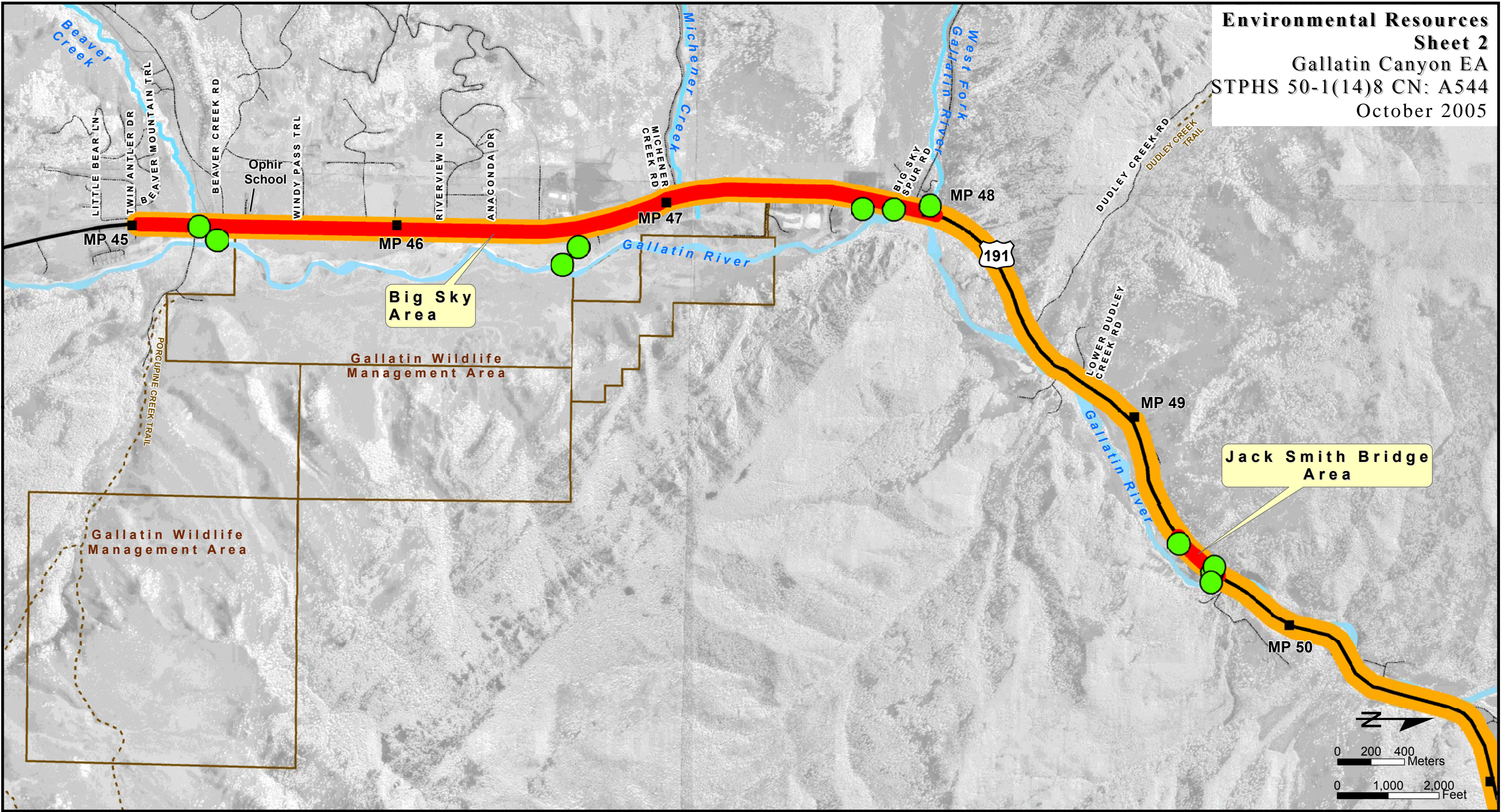
Legend:

- | | | |
|--|--|---|
| ■ Mile Post (MP) | Improvement Areas | MFWP Managed Lands |
| ● Approximate Wetland Locations In Improvement Areas | U.S. 191 | |
| ▲ USFS Campground | USFS Trails | |
| ▲ USFS Trailhead | Water Body | |
| | High Wildlife Accident Occurrence Area | |

SOURCE: Gallatin County, MT
 Montana Department of Transportation
 Montana Fish, Wildlife and Parks
 Natural Resources Conservation Service
 US Geological Survey
 Gallatin National Forest

Map Location:

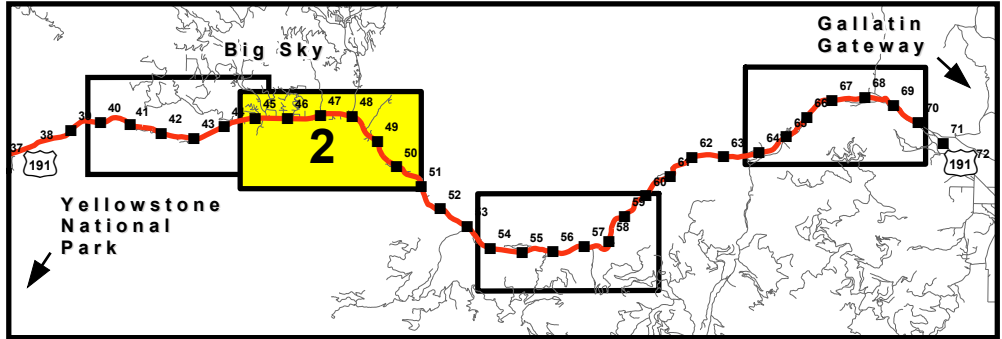


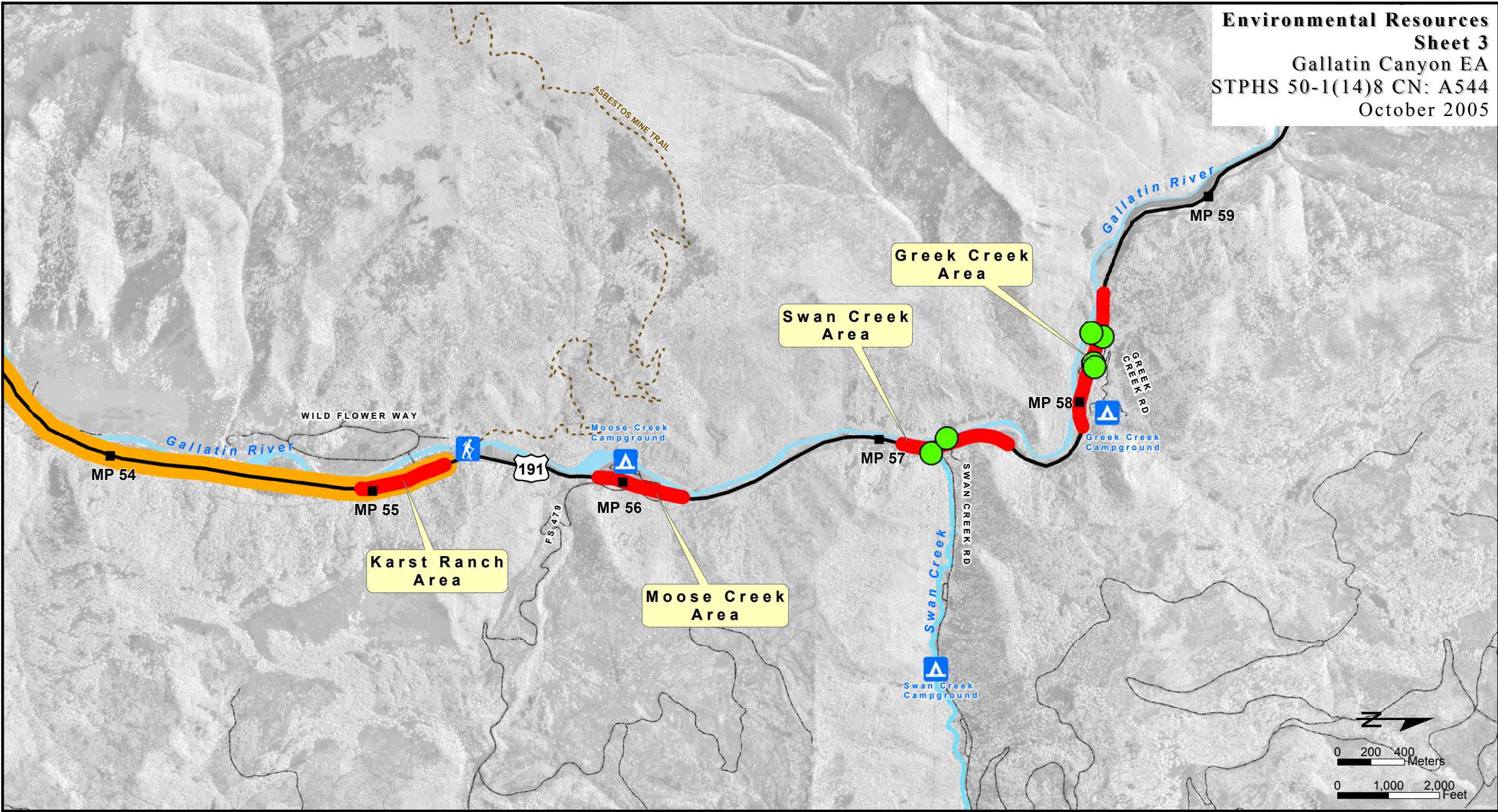


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|--|--|--------------------|
| ■ Mile Post (MP) | Improvement Areas | MFWP Managed Lands |
| Approximate Wetland Locations In Improvement Areas | U.S. 191 | |
| USFS Campground | USFS Trails | |
| USFS Trailhead | Water Body | |
| | High Wildlife Accident Occurrence Area | |
- SOURCE: Gallatin County, MT
Montana Department of Transportation
Montana Fish, Wildlife and Parks
Natural Resources Conservation Service
US Geological Survey
Gallatin National Forest

Map Location:



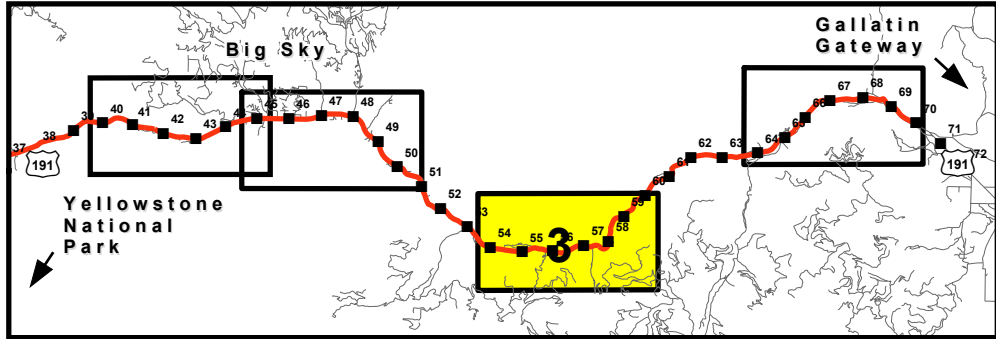


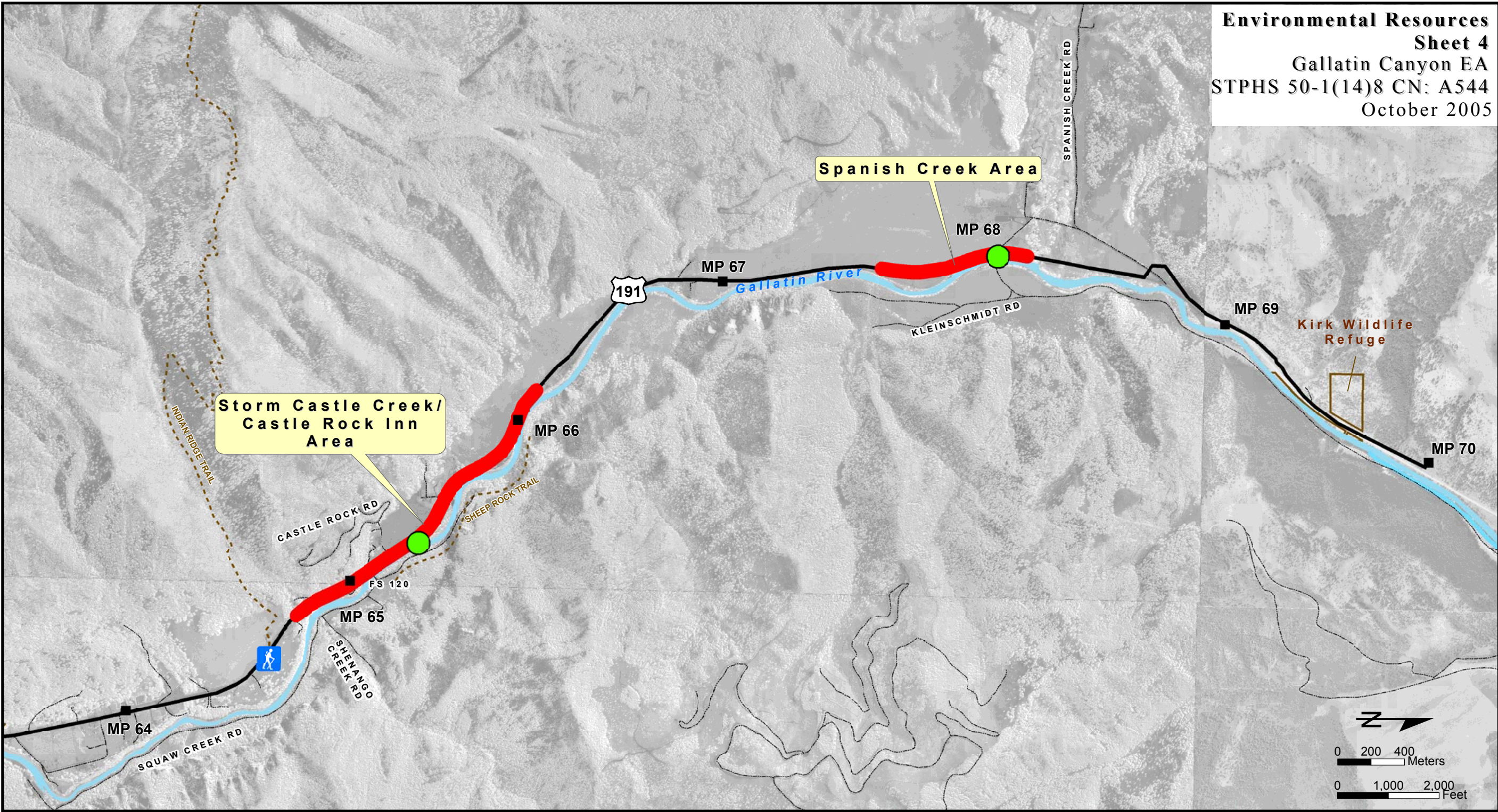
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| ■ Mile Post (MP) | Improvement Areas | MFWP Managed Lands |
| Approximate Wetland Locations In Improvement Areas | U.S. 191 | |
| USFS Campground | USFS Trails | |
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SOURCE: Gallatin County, MT
 Montana Department of Transportation
 Montana Fish, Wildlife and Parks
 Natural Resources Conservation Service
 US Geological Survey
 Gallatin National Forest

Map Location:

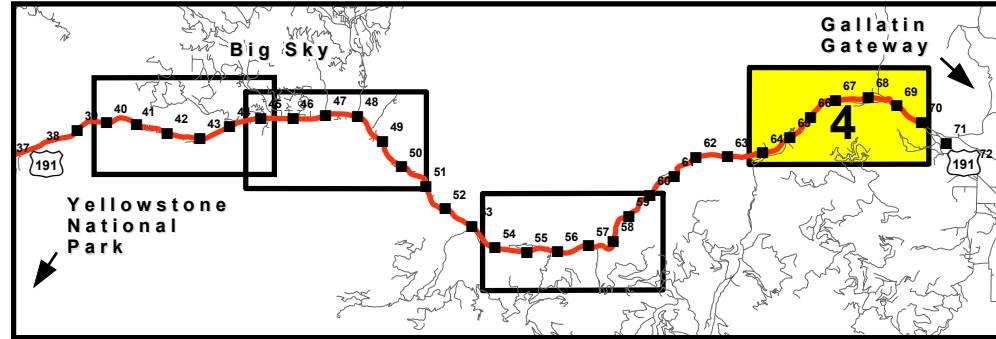




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| ■ Mile Post (MP) | Improvement Areas | MFWP Managed Lands |
| ● Approximate Wetland Locations In Improvement Areas | U.S. 191 | <small>SOURCE: Gallatin County, MT
Montana Department of Transportation
Montana Fish, Wildlife and Parks
Natural Resources Conservation Service
US Geological Survey
Gallatin National Forest</small> |
| ▲ USFS Campground | USFS Trails | |
| ▲ USFS Trailhead | Water Body | |
| | High Wildlife Accident Occurrence Area | |

Map Location:



Appendix B – Agency Coordination



U.S. ARMY CORPS OF ENGINEERS

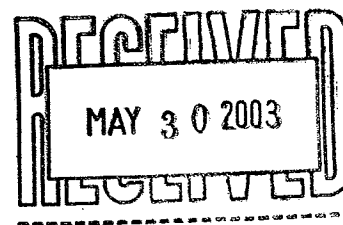
HELENA REGULATORY OFFICE
10 WEST 15TH STREET, SUITE 2200
HELENA, MONTANA 59626

MDOT 0017

Coop. Agencies

REPLY TO
ATTENTION OF:

May 27, 2003



Martha

Helena Regulatory Office
Phone (406) 441-1375
Fax (406) 441-1380

Subject: Corps File Number 2003-90-280
Gallatin Canyon- Slope Flattening/Widening
STPHS 50-1(14)8, MDT Control Number A544
Cooperating Agency Response

FILE COPY

Ms. Laura Hunter
Environmental Planner
David Evans and Associates, Inc.
1331 17th Street, Suite 900
Denver, Colorado 80202

Dear Ms. Hunter:

This letter is a response to your April 25, 2003 request that the US Army Corps of Engineers (Corps) be a Cooperating Agency for the Montana Department of Transportation (MDT) project listed above. The project is on US Highway 191 north of Yellowstone National Park along the Gallatin River in Gallatin County, Montana.

Under the authority of Section 404 of the Clean Water Act, Department of the Army permits are required for the discharge of fill material below the ordinary high water mark of our Nation's rivers, streams, lakes or wetlands.

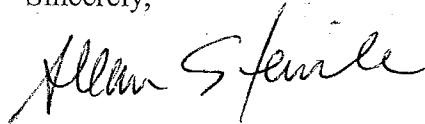
Pursuant to the National Environmental Policy Act, the Corps agrees to be a Cooperating Agency. Our participation as a Cooperating Agency will be limited to reviewing and commenting on project features that will or may affect Waters of the United States. This will be in addition to our regulatory and permitting responsibilities.

You also requested information regarding any items of concern to the Corps. Activities such as slope flattening, roadway widening, culvert extension, culvert replacement, and bridge replacement are expected. A preliminary review of the maps furnished revealed that these proposed activities would likely require Department of Army permits. This office will provide more specific comments on the project upon receipt of plan sheets or maps that show the projected fills and other impacts on Waters of the United States.

A copy of the Fact Sheet for **Nationwide Permit 14 - Linear Transportation Crossings** is enclosed for your review. It is unknown at this time if the proposed work would qualify for a Nationwide Permit, but this Fact Sheet provides a good reference for use in developing detailed designs, plans, and specifications for your project.

Todd Tillinger of this office will be the Corps' project manager. He may be reached by phone at (406) 441-1375 or by e-mail at todd.n.tillinger@usace.army.mil. Please reference Corps File Number 2003-90-280.

Sincerely,

A handwritten signature in black ink, appearing to read "Allan Steinle", written in a cursive style.

Allan Steinle
Montana Program Manager.

Enclosure

Copy Furnished, with enclosure:

Jean Riley, Montana Department of Transportation Environmental Services, Helena

**FACT SHEET
NATIONWIDE PERMIT 14**

LINEAR TRANSPORTATION CROSSINGS: Activities required for the construction, expansion, modification, or improvement of linear transportation crossings (e.g., highways, railways, trails, airport runways and taxiways) in waters of the United States, including wetlands, if the activity meets the following criteria:

- a. This NWP is subject to the following acreage limits:
 - (1) For linear transportation projects in non-tidal waters, provided the discharge does not cause the loss of greater than 1/2-acre of waters of the U.S.; or
 - (2) For linear transportation projects in tidal waters, provided the discharge does not cause the loss of greater than 1/3-acre of waters of the U.S.
- b. The permittee must notify the District Engineer if any of the following criteria are met:
 - (1) The discharge causes the loss of greater than 1/10 acre of waters of the United States; or
 - (2) There is a discharge in a special aquatic site, including wetlands;
- c. The notification must include a compensatory mitigation proposal to offset permanent losses of waters of the United States to ensure that those losses result only in minimal adverse effects to the aquatic environment and a statement describing how temporary losses will be minimized to the maximum extent practicable;
- d. For discharges in special aquatic sites, including wetlands, and stream riffle and pool complexes, the notification must include a delineation of the affected special aquatic sites;
- e. The width of the fill is limited to the minimum necessary for the crossing;
- f. This permit does not authorize stream channelization, and the authorized activities must not cause more than minimal changes to the hydraulic flow characteristics of the stream, increase flooding, or cause more than minimal degradation of water quality of any stream (see General Conditions 9 and 21);
- g. This permit cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars; and
- h. The crossing is a single and complete project for crossing waters of the United States. Where a road segment (i.e., the shortest segment of a road with independent utility that is part of a larger project) has multiple crossings of streams (several single and complete projects) the Corps will consider whether it should use its discretionary authority to require an individual permit. (Sections 10 and 404)

Note: Some discharges for the construction of farm roads, forest roads, or temporary roads for moving mining equipment may be eligible for an exemption from the need for a Section 404 permit (See 33 CFR 323.4).

General Conditions: The following general conditions must be followed in order for any authorization by a NWP to be valid:

- 1. Navigation:** No activity may cause more than a minimal adverse effect on navigation.
- 2. Proper Maintenance:** Any structure or fill authorized shall be properly maintained, including maintenance to ensure public safety.
- 3. Soil Erosion and Sediment Controls:** Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.
- 4. Aquatic Life Movements:** No activity may substantially disrupt the necessary life-cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.
- 5. Equipment:** Heavy equipment working in wetlands must be placed on mats, or other measures must be taken to minimize soil disturbance.
- 6. Regional and Case-By-Case Conditions:** The activity must comply with any regional conditions which may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the State or tribe in its Section 401 water quality certification.
- 7. Wild and Scenic Rivers:** No activity may occur in a component of the National Wild and Scenic River System; or in a river officially designated by Congress as a "study river" for possible inclusion in the system, while the river is in an official study status; unless the appropriate Federal agency, with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation, or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).
- 8. Tribal Rights:** No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.
- 9. Water Quality:**
 - (a) In certain states and tribal lands an individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)).
 - (b) For NWP 14, where the state or tribal 401 certification (either generically or individually) does not require or approve water quality management measures, the permittee must provide water quality management measures that will ensure that the authorized work does not result in more than minimal degradation of water quality (or the Corps determines that compliance with state or local standards, where applicable, will ensure no more than minimal adverse effect on water quality). An important component of water quality management includes stormwater management that minimizes degradation of the downstream aquatic system, including water quality (refer to General Condition 21 for stormwater management requirements). Another important component of water quality management is the establishment and maintenance of vegetated buffers next to open waters, including streams (refer to General Condition 19 for vegetated buffer requirements for the NWPs).

This condition is only applicable to projects that have the potential to affect water quality. While appropriate measures must be taken, in most cases it is not necessary to conduct detailed studies to identify such measures or to require monitoring.

10. Coast Zone Management: *Not applicable.*

11. Endangered Species: (a) No activity is authorized which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act, or which will destroy or adversely modify the critical habitat of such species. Non-federal permittees shall notify the District Engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or is located in the designated critical habitat and shall not begin work on the activity until notified by the District Engineer that the requirements of the Endangered Species Act have been satisfied and that the activity is authorized. For activities that may affect Federally-listed endangered or threatened species or designated critical habitat, the notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. As a result of formal or informal consultation with the U.S. Fish and Wildlife Service (FWS) or the National Marine Fisheries Service (NMFS), the District Engineer may add species-specific regional endangered species conditions to the NWP.

(b) Authorization of any activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the Federal Endangered Species Act. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the FWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the Endangered Species Act. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at <http://www.fws.gov/r9endspp/endspp.html> and http://www.nmfs.noaa.gov/prot_res/overview/es.html respectively.

12. Historic Properties: No activity which may affect historic properties listed, or eligible for listing, in the National Register of Historic Places is authorized, until the District Engineer has complied with the provisions of 33 CFR Part 325, Appendix C. The prospective permittee must notify the District Engineer if the authorized activity may affect any historic properties listed, determined to be eligible, or which the prospective permittee has reason to believe may be eligible for listing on the National Register of Historic Places, and shall not begin the activity until notified by the District Engineer that the requirements of the National Historic Preservation Act have been satisfied and that the activity is authorized. Information on the location and existence of historic resources can be obtained from the State Historic Preservation Office and the National Register of Historic Places (see 33 CFR 330.4(g)). For activities that may affect historic properties listed in, or eligible for listing in, the National Register of Historic Places, the notification must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property.

13. Notification: *See attached sheets.*

14. Compliance Certification: Every permittee who has received NWP verification from the Corps will submit a signed certification regarding the completed work and any required mitigation. The certification will be forwarded by the Corps with the authorization letter. The certification will be forwarded by the Corps with the authorization letter and will include: (a) A statement that the authorized work was done in accordance with the Corps authorization, including any general or specific conditions; (b) A statement that any required mitigation was completed in accordance with the permit conditions; and (c) The signature of the permittee certifying the completion of the work and mitigation.

15. Use of Multiple Nationwide Permits: The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit (e.g. if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3 acre).

16. Water Supply Intakes: No activity, including structures and work in navigable waters of the United States or discharges of dredged or fill material, may occur in the proximity of a public water supply intake except where the activity is for repair of the public water supply intake structures or adjacent bank stabilization.

17. Shellfish Beds: No activity, including structures and work in navigable waters of the United States or discharges of dredged or fill material, may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWP 4.

18. Suitable Material: No activity, including structures and work in navigable waters of the United States or discharges of dredged or fill material, may consist of unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.) and material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

19. Mitigation: The District Engineer will consider the factors discussed below when determining the acceptability of appropriate and practicable mitigation necessary to offset adverse effects on the aquatic environment that are more than minimal.

(a) The project must be designed and constructed to avoid and minimize adverse effects to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland impacts requiring notification, unless the District Engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. Consistent with National policy, the District Engineer will establish a preference for restoration of wetlands as compensatory mitigation, with preservation used only in exceptional circumstances.

(d) Compensatory mitigation (i.e., replacement or substitution of aquatic resources for those impacted) will not be used to increase the acreage losses allowed by the acreage limits of some of the NWPs. For example, 1/4-acre of wetlands cannot be created to change a 3/4-acre loss of wetlands to a 1/2-acre loss associated with NWP 39 verification. However, 1/2-acre of created wetlands can be used to reduce the impacts of a 1/2-acre loss of wetlands to the minimum impact level in order to meet the minimal impact requirement associated with NWPs.

(e) To be practicable, the mitigation must be available and capable of being done considering costs, existing technology, and logistics in light of the overall project purpose. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferably in the same watershed.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., easements, deed restrictions) of vegetated buffers to open waters. In many cases, vegetated buffers will be the only compensatory mitigation required. Vegetated buffers should consist of native species. The width of the

vegetated buffers required will address documented water quality or aquatic habitat loss concerns. Normally, the vegetated buffer will be 25 to 50 feet wide on each side of the stream, but the District Engineer may require slightly wider vegetated buffers to address documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the Corps will determine the appropriate compensatory mitigation (e.g., stream buffers or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where vegetated buffers are determined to be the most appropriate form of compensatory mitigation, the District Engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland impacts.

(g) Compensatory mitigation proposals submitted with the notification may be either conceptual or detailed. If conceptual plans are approved under the verification, then the Corps will condition the verification to require detailed plans be submitted and approved by the Corps prior to construction of the authorized activity in waters of the United States.

(h) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases that require compensatory mitigation, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

20. Spawning Areas: Activities, including structures and work in navigable waters of the United States or discharges of dredged or fill material, in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., excavate, fill, or smother downstream by substantial turbidity) of an important spawning area are not authorized.

21. Management of Water Flows: To the maximum extent practicable, the activity must be designed to maintain preconstruction downstream flow conditions (e.g., location, capacity, and flow rates). Furthermore, the activity must not permanently restrict or impede the passage of normal or expected high flows (unless the primary purpose of the fill is to impound waters) and the structure or discharge of dredged or fill material must withstand expected high flows. The activity must, to the maximum extent practicable, provide for retaining excess flows from the site, provide for maintaining surface flow rates from the site similar to preconstruction conditions, and provide for not increasing water flows from the project site, relocating water, or redirecting water flow beyond preconstruction conditions. Stream channelization will be reduced to the minimal amount necessary, and the activity must, to the maximum extent practicable, reduce adverse effects such as flooding or erosion downstream and upstream of the project site, unless the activity is part of a larger system designed to manage water flows. In most cases, it will not be a requirement to conduct detailed studies and monitoring of water flow.

This condition is only applicable to projects that have the potential to affect water flows. While appropriate measures must be taken, it is not necessary to conduct detailed studies to identify such measures or require monitoring to ensure their effectiveness. Normally, the Corps will defer to state and local authorities regarding management of water flow.

22. Adverse Effects From Impoundments: If the activity creates an impoundment of water, adverse effects to the aquatic system due to the acceleration of the passage of water, and/or the restriction of its flow, shall be minimized to the maximum extent practicable. This includes structures and work in navigable waters of the United States, or discharges of dredged or fill material.

23. Waterfowl Breeding Areas: Activities, including structures and work in navigable waters of the United States or discharges of dredged or fill material, into breeding areas for migratory waterfowl must be avoided to the maximum extent practicable.

24. Removal of Temporary Fills: Any temporary fills must be removed in their entirety and the affected areas returned to their preexisting elevation.

25. Designated Critical Resources Waters: Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, National Wild and Scenic Rivers, critical habitat for Federally listed threatened and endangered species, coral reefs, State natural heritage sites, and outstanding national resource waters or other waters officially designated by a State as having particular environmental or ecological significance and identified by the District Engineer after notice and opportunity for public comment. The District Engineer may also designate additional critical resource waters after notice and opportunity for comment.

(a) Except as noted below, discharges of dredged or fill material into waters of the United States are not authorized by NWP 14 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters. Discharges of dredged or fill materials into waters of the United States may be authorized in National Wild and Scenic Rivers if the activity complies with General Condition 7. Further, such discharges may be authorized in designated critical habitat for Federally listed threatened or endangered species if the activity complies with General Condition 11 and the U.S. Fish and Wildlife Service or the National Marine Fisheries Service has concurred in a determination of compliance with this condition.

26. Fills Within 100-Year Floodplains: The permittee must comply with any applicable FEMA-approved state or local floodplain management requirements.

27. Construction Period: For activities that have not been verified by the Corps and the project was commenced or under contract to commence by the expiration date of the NWP (or modification or revocation date), the work must be completed within 12 months after such date (including any modification that affects the project).

For activities that have been verified and the project was commenced or under contract to commence within the verification period, the work must be completed by the date determined by the Corps.

For projects that have been verified by the Corps, an extension of a Corps approved completion date may be requested. This request must be submitted at least one month before the previously approved completion date.

Further Information:

1. District Engineers have authority to determine if any activity complies with the terms and conditions of a NWP.
2. NWPs do not obviate the need to obtain other Federal, State, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project.

General Condition 13. Notification:

(a) Timing: Where required by the terms of the NWP, the prospective permittee must notify the District Engineer with a preconstruction notification (PCN) as early as possible. The District Engineer must determine if the notification is complete within 30 days of the date of receipt and can request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the District Engineer will notify the prospective permittee that the notification is still incomplete and the PCN review process will not commence until all of the requested information has been received by the District Engineer. The prospective permittee shall not begin the activity:

(1) Until notified in writing by the District Engineer that the activity may proceed under the NWP with any special conditions imposed by the District or Division Engineer; or

(2) If notified in writing by the District or Division Engineer that an individual permit is required; or

(3) Unless 45 days have passed from the District Engineer's receipt of the complete notification and the prospective permittee has not received written notice from the District or Division Engineer. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Notification: The notification must be in writing and include the following information:

(1) Name, address, and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) Brief description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP (sketches usually clarify the project and when provided result in a quicker decision);

(4) For NWP 14, the PCN must also include a delineation of affected special aquatic sites, including wetlands, vegetated shallows (e.g., submerged aquatic vegetation, seagrass beds), and riffle and pool complexes (see paragraph 13(f));

(5) **Not applicable to NWP 14.**

(6) For NWP 14, the PCN must include a compensatory mitigation proposal to offset permanent losses of waters of the United States and a statement describing how temporary losses of waters of the United States will be minimized to the maximum extent practicable.

(7) thru (16) **Not applicable to NWP 14.**

(17) For activities that may adversely affect Federally-listed endangered or threatened species, the PCN must include the name(s) of those endangered or threatened species that may be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work.

(18) For activities that may affect historic properties listed in, or eligible for listing in, the National Register of Historic Places, the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property.

(c) Form of Notification: The standard individual permit application form (Form ENG 4345) may be used as the notification but must clearly indicate that it is a PCN and must include all of the information required in (b)(1)-(18) of General Condition 13. A letter containing the requisite information may also be used.

(d) District Engineer's Decision: In reviewing the PCN for the proposed activity, the District Engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. The prospective permittee may submit a proposed mitigation plan with the PCN to expedite the process. The District Engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. If the District Engineer determines that the activity complies with the terms

and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the District Engineer will notify the permittee and include any conditions the District Engineer deems necessary. The District Engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee is required to submit a compensatory mitigation proposal with the PCN, the proposal may be either conceptual or detailed. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the District Engineer will expeditiously review the proposed compensatory mitigation plan. The District Engineer must review the plan within 45 days of receiving a complete PCN and determine whether the conceptual or specific proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the District Engineer to be minimal, the District Engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the District Engineer determines that the adverse effects of the proposed work are more than minimal, then the District Engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation proposal that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the District Engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation proposal that would reduce the adverse effects on the aquatic environment to the minimal level. When conceptual mitigation is included, or a mitigation plan is required under item (2) above, no work in waters of the United States will occur until the District Engineer has approved a specific mitigation plan.

(e) Agency Coordination: The District Engineer will consider any comments from Federal and State agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

For activities requiring notification to the District Engineer that result in the loss of greater than 1/2 acre of waters of the United States, the District Engineer will provide immediately (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy to the appropriate Federal or state offices (USFWS, State natural resource or water quality agency, EPA, and State Historic Preservation Officer (SHPO), and if appropriate, the NMFS). These agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the District Engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the District Engineer will wait an additional 15 calendar days before making a decision on the notification. The District Engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency. The District Engineer will indicate in the administrative record associated with each notification that the resource agencies' concerns were considered. Applicants are encouraged to provide the Corps multiple copies of notifications to expedite agency notification.

(f) Wetlands Delineations: Wetlands delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic site. There may be some delay if the Corps does the delineation. Furthermore, the 45-day period will not start until the wetland delineation has been completed and submitted to the Corps, where appropriate.

**NATIONWIDE PERMITS
REGIONAL CONDITIONS
STATE OF MONTANA
OMAHA DISTRICT – CORPS OF ENGINEERS
Effective March 18, 2002**

1. Fens

All nationwide permits, with the exception of 3, 5, 20, and 32, are revoked for use in fens in Montana. For nationwide permits 3, 5, 20, and 32 permittees must notify the Corps in accordance with General Condition No. 13 (Notification) prior to initiating any regulated activity impacting fens in Montana.

Wetlands commonly known as fens are defined as wetlands that are characterized by waterlogged spongy ground and contain (in all or in part) soils classified as histosols or mineral soils with a histic epipedon. To determine whether this provision applies, the entire wetland must be examined for the presence of histosols or histic epipedons.

2. Springs

For all nationwide permits, except NWP 40(a), permittees must notify the Corps in accordance with General Condition No. 13 (Notification) for regulated activities located within 100 feet of the water source in natural spring areas in Montana. For purposes of this condition, a spring source is defined as any location where there is artesian flow emanating from a distinct point at any time during the growing season. Springs do not include seeps and other groundwater discharge areas where there is no distinct point source.

3. Pool and Riffle Complexes

For all nationwide permits, except NWP 40(a), permittees must notify the Corps in accordance with General Condition No. 13 (Notification) prior to initiating any regulated activity involving the discharge of dredge or fill material into pool and riffle complexes. The notification must contain identification of the location of pool and riffle complexes in the project area. Projects involving the discharge of dredged or fill material into a pool and riffle complex will not be authorized by a nationwide permit unless the permittee demonstrates that avoidance is impracticable. Compensatory mitigation for unavoidable adverse impacts may be required.

4. Yellowstone River, Bitterroot River, and Missouri River

In addition to those nationwide permit activities that require notification to the Corps, all activities proposed to be undertaken on the Yellowstone, Bitterroot and Missouri Rivers in accordance with NWPs 3, 12, 13, 14, 16, 18, 19, 39, 40(b), and 42 require prior notification to the Corps in accordance with General Condition No. 13 (Notification).

5. Nationwide Permit 12 - Utility Line Activities

Permittees must notify the Corps in accordance with General Condition No. 13 (Notification) prior to initiating any utility line activity that involves the discharge of dredged or fill material into a flowing stream (including intermittent and ephemeral streams) in Montana.

Utility line projects through wetlands must be designed and constructed to prevent the trench and bedding material from acting as a subsurface drain. Cutoff collars will be installed if necessary to prevent wetland drainage.

6. Nationwide Permit 13 - Bank Stabilization

Bank stabilization structures that project into the stream, such as barbs or vanes, must meet the following criteria for consideration under this nationwide permit:

- The end of the structure at the bank will be no higher than the ordinary high water mark.
- The structure must angle upstream.
- The top of the structure must decrease in elevation from the bank to the end of the structure away from the bank.
- The structure must be keyed into the bed and the bank.

Structures that project from the bank that are perpendicular to the normal flow direction, or angle downstream, or extend above the ordinary high water mark, or are designed horizontally level, will not be considered under Nationwide Permit 13.

Projects that meet the bulleted criteria above may be reviewed under individual permit procedures if the Corps determines the project may have adverse impacts to adjacent properties, river functions, or essential habitat. Structures that occupy more than 10-25% of the bankfull channel width are more likely to be evaluated under individual permit procedures. Any permitted structure that fails must be repaired or all material removed from below ordinary high water.

The following applies to bank revetments (i.e., riprap, rootwads or any bioengineered revetment) and to bank stabilization structures that project into the stream, such as barbs or vanes. All bank stabilization structures must meet the following criteria for consideration under this nationwide permit:

- The top of the bank stabilization structure may not extend above the elevation of the existing top of the bank (i.e., no new levees).
- No bank stabilization structure can block or divert flows from entering a side channel or an overflow channel.

7. Nationwide Permit 23 - Approved Categorical Exclusions

Permittees must notify the Corps in accordance with General Condition No. 13 (Notification) prior to initiating any activities involving the discharge of dredged or fill material into waters of the United States.

8. Nationwide Permit 27 - Stream and Wetland Restoration Activities

Permittees must notify the Corps in accordance with General Condition No. 13 (Notification) prior to initiating any wetland or riparian restoration or creation activities that involve the discharge of dredged or fill material into waters of the United States.

9. Nationwide Permit 39 - Residential, Commercial, and Institutional Developments

Permittees must notify the Corps in accordance with General Condition No. 13 (Notification) prior to initiating any work that involves the discharge of dredged or fill material into waters of the United States.

10. Placement and Removal of Temporary Fills

General Condition No. 24 is amended by adding the following: When temporary fills are placed in wetlands, a horizontal marker (e.g., fabric, certified weed-free straw, etc.) must be used to delineate the existing ground elevation of wetlands that will be temporarily filled during construction to facilitate removal to original grade and contour and to aid in restoration of impacted vegetation.

11. Channel Straightening and Relocation Activities

For all nationwide permits, except NWP 40(a), permittees must notify the Corps in accordance with General Condition No. 13 (Notification) prior to initiating any activity that would result in straightening, relocating and/or shortening an existing perennial stream channel. For all such activities, the following conditions must be met:

- (1) The total channel length reduction is less than 100 feet; and
- (2) The project is necessary to prevent significant damage to private or public structures (roads, buildings, bridges, etc.); or
- (3) The project involves relocation of a previously straightened stream channel and net length is not reduced.

In addition to the above, the following conditions must be adhered to:

(a) Buffer strips will be set aside along the entire length of the new channel with a minimum width of 30 feet measured from the top of each side slope. The buffer strip shall be planted to appropriate permanent, perennial, native vegetation and will remain in this condition. Trees/shrubs removed by the construction will be replaced at a minimum ratio of 2 (replanted): 1 (removed). Higher ratios may be required in higher valued resource areas. The trees/shrubs will be replanted within the buffer strip, extending up and downstream of the project area, if necessary.

(b) The side slopes of the channel will be no steeper than three-foot horizontal to one-foot vertical [3(h): 1(v)]. If steeper slopes are proposed, a registered professional engineer must certify their stability. In no case will unarmored slopes steeper than 2(h): 1(v) be acceptable.

(c) Wetland losses greater than 0.1 acre will be mitigated. Replacement of riffle/pool complexes may be required if it is determined that their loss results in more than minimal impact.



United States
Department of
Agriculture

Forest
RECEIVED

APR 18 2005

Gallatin National Forest

PHS-NH 50-1(14)8
Bozeman Ranger District
3710 Fallon St., Suite C
Bozeman, MT 59718
406-522-2520

ENVIRONMENTAL

File Code: 1540/7730

Date: April 14, 2005

Montana Department of Transportation
Barry Brosten
2701 Prospect Avenue
PO Box 201001
Helena MT 59620-1001

REC'D APR 27 2005

This letter is my official response to your request for the Bozeman Ranger District to review the Draft EIS for the Gallatin Canyon – Slope Flattening/Widening Project. My staff and I have reviewed the draft environmental assessment for this project and our written response follows.

I have incorporated our comments and concerns below:

3-26

1. I am concerned with tree removal; especially at Greek Creek Campground and the entrance to Swan Creek Road # 481. It was discussed during field review to install guardrails to mitigate the need to remove as many trees. I would like to see that discussion carried forward in the EA.
2. We also discussed the need to straighten the intersection of Moose Creek campground and Moose Creek Road # 479 with Highway 191 so these two roads coming off the highway were at right angles and not offset. I did not see a discussion on this issue in the EA.
3. At one time it was discussed to relocate the access road to the Hellroaring trailhead a few hundred feet to the north to provide a better sight distance. Again, I did not see any discussion covering this option.
4. Staging areas on National Forest System Lands (NFSL) will need to be coordinated and approved by the Forest Service prior to use. We have several areas we'd like to see you utilize as well as areas that should not be disturbed.
5. Gallatin Canyon has some of the highest concentrations of weeds in the County. A recent inventory completed in 2003 by Gallatin County indicates extensive spotted knapweed infestations in many areas adjacent Highway 191. There are also several other listed weed species in the area that have the potential to expand into new areas; hound's tongue, yellow toadflax, sulfur cinquefoil, common tansy, and oxeye daisy to name a few. We will require the following mitigation on NFSL involved with this project:
 - Workers will park their vehicles in weed-free areas that are identified with flagging or signs.
 - All of the contractor's heavy equipment will be washed prior to entering and leaving the work area.



- Reseeding of disturbed areas on national forest system lands will be done with seed mixes reviewed by the Forest Service and certified as weed-free.
- Weed suppression will be completed prior to construction and then following construction for a minimum of three years in disturbed areas.

Thank you for the opportunity to comment. I look forward to a successful partnership on this project with MDT. If you need further clarification or have questions on any of the concerns/comments I've listed, please contact Nancy Halstrom of my staff at 522-2535.



JOSÉ CASTRO
District Ranger

cc: Forest Supervisor

cc: Jonathan Kempff, Assistant Forest Engineer



United States
Department of
Agriculture

Forest
Service

Gallatin National Forest

Supervisor's Office
10 East Babcock
P.O. Box 130
Bozeman, MT 59771

Martha
FILE COPY

File Code: 7700
Date: October 3, 2003

*Agency Coord
- Coop Agency*

Laura Hunter
Environmental Planner
David Evans and Associates, Inc.
1331 17th Street
Suite 900
Denver, CO 80202

REC'D OCT 09 2003

Dear Laura:

Attached are some comments one of our wildlife biologists suggests be considered while planning the US 191 slope flattening and widening project.

At this time, we plan to reroute traffic accessing national forest lands through the Buffalo Horn Ranch to another access approximately one half mile north of that site, in the same area where there is an existing fisherman approach off US 191. A new bridge crossing the Gallatin River and the connecting road are scheduled to be constructed the summer of 2005.

If you have more questions related to this project, please contact Gene Gibson (406) 587-6736.

Sincerely,

REBECCA HEATH
Forest Supervisor

cc: Jose V Castro
Nancy Halstrom
Gene L Gibson





United States
Department of
Agriculture

Forest
Service

Gallatin National Forest

Bozeman Ranger District
3710 Fallon St., Ste C
Bozeman, MT 59718
406-522-2520

File Code: 1950/2600
Route To: Project File

Date: September 24, 2003

Subject: Wildlife Input - US 191 Improvement Project

To: Gene Gibson, GNF Project Coordinator
Nancy Halstrom, Bozeman RD Project Coordinator

This letter is in response to a request for input from David Evans and Associates, Inc. project consultant preparing an environmental document for the Gallatin Canyon Highway 191 improvement project. The project includes proposals to add left-turn bays, upgrade guardrails, flatten slopes, and construct two new bridges over the Gallatin River and Swan Creek. This document identifies potential wildlife issues associated with the proposal, and includes recommendations for minimizing negative impacts to wildlife and habitat.

ISSUES

Construction activities could remove and/or degrade riparian vegetation and/or wetland areas that provide important habitat for a wide range of wildlife species.

Ground disturbance from project activities could facilitate the spread of noxious weed species; e.g. spotted knapweed (*Centaurea maculosa*), oxeye daisy (*Chrysanthemum leucanthemum*) and others already present along the highway corridor. Noxious weed infestations can seriously degrade wildlife habitat by reducing forage and security cover for numerous species.

Cottonwood (*Populus* spp.) trees along the project area represent an important habitat component that is extremely limited on the Gallatin National Forest. Removal or damage to these trees could have negative effects to threatened species such as the bald eagle (*Haliaeetus leucocephalus*), which winters along the Gallatin River and uses cottonwoods as perch trees.

Ground disturbance from project activities could result in additional sedimentation of the Gallatin River, which could affect fisheries that provide an important food source to many wildlife species, including bald eagles.

The project may require relocation of power transmission lines, which can pose hazards to raptors, including bald eagles and other species of concern.

Noise and disturbance associated with the project could displace grizzly bears (*Ursus arctos*) from important foraging areas, such as big game winter ranges that provide a critical spring protein source in the form of winter-killed ungulate carcasses.

Food or other attractants associated with the project could lure grizzly bears into the construction and/or camping areas and result in bear-human conflicts.

Blasting and/or aircraft use associated with the project could disturb and/or displace peregrine



falcons (*Falco peregrinus*) nesting within the project area. Disturbance could potentially result in nest abandonment and subsequent reproductive failure for some birds.

Riverine habitats provide nesting and foraging areas for many species of songbirds, shorebirds and waterfowl. Vegetation removal could impact local bird populations and ultimately reduce the availability of prey species for peregrine falcons.

Bridge abutments can pose barriers to wildlife movement along the river corridor. If animals cannot get around an abutment below the bridge, they might be forced up onto the highway where mortality risk is greatly increased due to potential for collision with vehicles.

Highway safety improvements such as upgraded guardrails and wider road surfaces could impede wildlife movement across Gallatin Canyon.

Increased traffic volume over time from human development within Gallatin Canyon and surrounding areas could produce barriers to wildlife movement between the Madison and Gallatin mountain ranges.

RECOMMENDATIONS

Design project so as to minimize ground disturbance in riparian/wetland habitats. Vertical retaining walls are preferable to sloping encroachment into river flood plain.

Precede project with aggressive weed treatment program in existing infestation areas and require regular cleaning of project equipment to preclude transfer of seed source.

Post-construction, implement an aggressive re-vegetation program using weed-free mixes of native seed and large, woody debris in disturbed areas.

Avoid removing or damaging cottonwood trees and willow carrs. Where damage to these habitat components cannot be avoided due to safety concerns, plant replacement trees and/or shrubs after construction is completed.

Limit ground disturbance near riverbed, and implement re-vegetation quickly in disturbed areas to minimize adding to sediment load in Gallatin River and tributaries.

If power transmission lines must be relocated to facilitate construction activities, include raptor safety design features; e.g. properly spaced wires, large diameter wires, nest and perch deterrents, etc. in relocated lines.

Preclude use of loud, heavy equipment and explosives during the spring (March-May) near ungulate winter ranges.

Require sanitation measures at construction sites to minimize potential for attracting grizzly bears into project area. If project personnel would be camping in the area (rather than traveling to and from job site), implement Food Storage Order requirements.

No blasting or use of aircraft within one mile of occupied peregrine falcon nest sites during the nesting period (March-July).

Build bridges of adequate length to allow for unimpeded wildlife travel along the river corridor below the bridge, and also to allow for stream flow dispersal during high-water events.

Evaluate locations of new turn lanes and guardrails relative to wildlife travel corridors. New bridges, culverts or other project facilities could provide opportunities to enhance wildlife crossing areas along the highway.

Where possible, incorporate wildlife crossing features to allow for continued flow of historic wildlife movement patterns as traffic volume in Gallatin Canyon increases over time.

In conclusion, although there are a number of wildlife issues related to the proposed highway improvement, there are also corresponding mitigation measures and proactive measures that can effectively minimize negative impacts to wildlife. Human safety concerns in Gallatin Canyon are recognized and the project as described by David Evan and Associates, Inc. seems prudent. I would be happy to provide additional information regarding the issues and recommendations outlined in this document if needed.

/s/ Bev Dixon
Wildlife Biologist



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Service

Gallatin National Forest

Agency Coord
- Cop Agency
Supervisor's Office
10 East Babcock
P.O. Box 130
Bozeman, MT 59771

FILE COPY

File Code: 7700

Date: September 22, 2003

Laura Hunter
Environmental Planner
David Evans and Associates, Inc.
1331 17th Street
Suite 900
Denver, CO 80202

REC'D SEP 25 2003

Dear Ms. Hunter:

Thank you for inviting us to be a Cooperating Agency on this Montana Department of Transportation (MDT) proposed Gallatin Canyon: Slope Flattening/Widening project NEPA process. We anticipate our role being to identify issues and concerns this project might have associated with the US Forest Service mission, and reviewing the document related to your analysis of those issues and concerns. We do not anticipate providing specialist time for analysis nor direct financial contribution to the NEPA process.

Our interests will focus on access to Gallatin National Forest (GNF) lands and facilities, effects on fish and wildlife, and disturbance to national forest lands within and outside the existing DOT easements.

Gene Gibson in this office will be your contact for me on this project. His phone number is 406 587-6736.

Sincerely,

REBECCA HEATH
Forest Supervisor

cc: Jose Castro
Nancy Halstrom
Gene Gibson





Natural Resources Conservation Service
3710 Fallon St., Suite B
Bozeman, MT 59718

11/27/07
copy to pen-100
martha
FILE COPY

Date: 5/27/03

Subject: Important Farmland Identification for the Gallatin Canyon
Highway Project: STPHS 50-1(12)8 Control No. A544

To: David Evans and Associates
1331 17th Street
Suite 900
Denver, CO. 80202

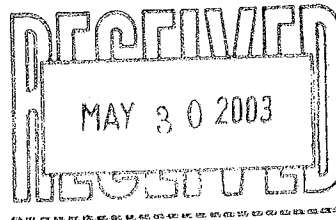
In response to your request for information concerning Important Farmlands for the Gallatin Canyon Highway Project, Highway 191, I have enclosed two maps identifying the location of Important Farmlands. The Gallatin County Soil Survey covers the Spanish Creek Area, and the Big Sky Area project sections. The remaining areas are within the Gallatin National Forest Boundary, these areas were not included in the Gallatin County Soil Survey. The Gallatin National Forest Soil Survey covers these remaining areas, however Important Farmlands are not identified in this soil survey. The data in the Gallatin National Forest Soil Survey is not sufficient to derive Important Farmland Interpretations and location.

The map enclosed for the Spanish Creek Area section identifies and locates the Important Farmlands in the project area. The map for the Big Sky Area section as indicates does not have Important Farmlands in the project area.

If you have any questions concerning this report or the Important Farmlands in the project area please call me 406 522-4023.


TONY ROLFES
Resource Soil Scientist

Enclosure

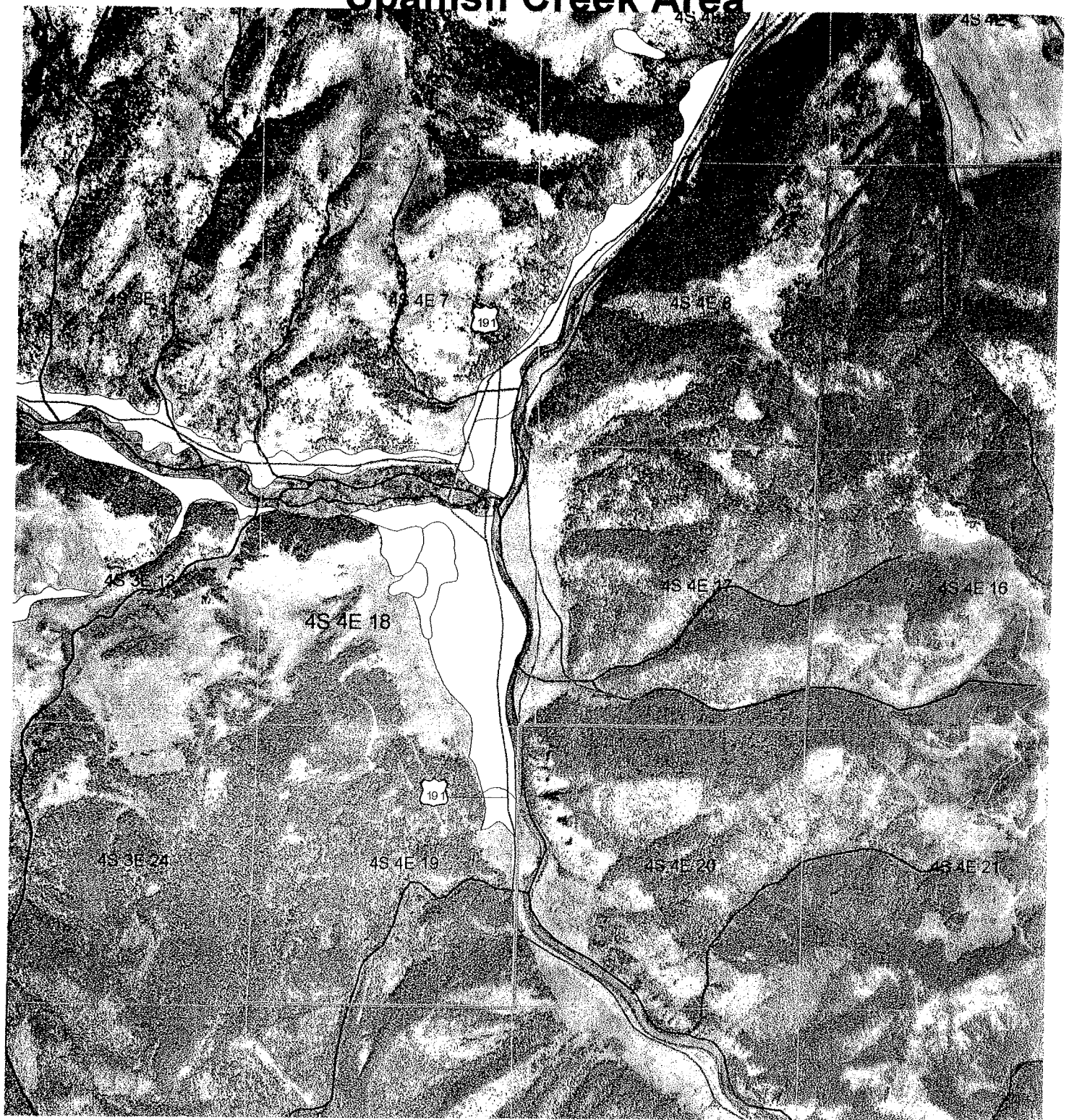


cc w/encl:

Thomas Pick, Water Quality Specialist, NRCS, Bozeman State Office

Gallatin Canyon Highway Project

Spanish Creek Area



Limit Of Soil Survey
Sections

Roads
Streams

FPP Soils

PRIME
PRIME IF IRRIGATED
IMPORTANT STATEWIDE
LOCALLY IMPORTANT

0.6 0 0.6 1.2 Miles



Important Farmlands Map
NRCS-USDA
Tony Rolfes 5/27/03



Gallatin Canyon Highway Project Big Sky Area



- Limit Of Soil Survey
- Soil_a_mt622.shp
- Sections
- Roads
- Streams
- FPP Soils
- PRIME
- PRIME IF IRRIGATED
- IMPORTANT STATEWIDE
- LOCALLY IMPORTANT

0.7 0 0.7 1.4 Miles

Important Farmlands Map
NRCS - USDA
Tony Rolfe 5/27/03





Natural Resource Conservation Service
Federal Building, Room 443
10 East Babcock Street
Bozeman, Montana 59715-4704

FILE COPY

Subject: ECS-Evaluations: Gallatin Canyon: Slope Flattening/
Widening Project STPHS 50-1(14)8
Control No. A544 Located in Gallatin County, Montana
David Evans and Associates, Inc. Relative to the

Date: May 6, 2003

To: Gordon Hill
District Conservationist
Bozeman, Montana

File Code: 190-15-12

Attached please find a copy of the letter and respective map from the consulting firm of David Evans and Associates, Inc. regarding the proposed installation and improvements to National Highway (NH) Route 50/US 191 in Gallatin County, Montana, dated April 25, 2003. The project is being managed by the Montana Department of Transportation (MDOT). As part of preparing the environmental report, David Evans and Associates, Inc. has requested information and comments regarding potential environmental impacts.

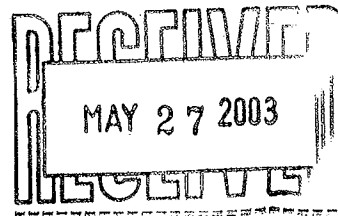
Please prepare a response to David Evans and Associates, Inc., indicating the general presence and extent of Important Farmland within the scope of their proposed NH Route 50/US 191 project (see attached maps). It will then be the determination of MDOT or their agents to determine if the project is subject to the provisions of the Farmland Protection Policy Act (FPPA). If subject, MDOT will then be required to submit Form AD-1006 or CPA-106 for formal FPPA evaluation. Please provide a carbon copy of your response to the NRCS State Office.

If you have any questions regarding this request, please contact Tom Pick, State Water Quality Specialist, at 406.587.6947, thomas.pick@mt.usda.gov.

THOMAS L. PICK
Water Quality Specialist

Enclosure

cc: w/o enclosure
Martin Jiminez, State Resource Conservationist, NRCS, Bozeman SO
Dennis Loreth, ASTC-FO, NRCS, Bozeman AO
Laura Hunter, Environmental Planner, David Evans and Associates, 1331 17th Street, Suite 900,
Denver, Colorado 80202
File w/ enclosure





United States Department of the Interior

FISH AND WILDLIFE SERVICE

ECOLOGICAL SERVICES

MONTANA FIELD OFFICE

100 NORTH PARK SUITE 320

HELENA, MONTANA 59601

PHONE (406) 449-5225, FAX (406) 449-5339

M.44 MDT (I)

June 15, 2004

REC'D JUN 18 2004

Debra Perkins-Smith
David Evans and Associates, Inc.
1331 17th Street, Suite 900
Denver, Colorado 80202

Dear Ms. Perkins-Smith:

This is in response to your letter dated June 1, 2004, regarding a safety improvement project proposed by the Montana Department of Transportation along U.S. Highway 191 through Gallatin Canyon in Gallatin County, Montana (STPHS 50-1(14)8; Control No. A544). The project would be constructed during the 2006 and 2007 seasons and would entail construction of turn lanes, side slope flattening, shoulder widening, guardrail installation, tree removal for sight distance improvement, and the replacement of bridges at Swan Creek and the West Fork of the Gallatin River. The project would occur along a 38-mile long corridor, with actual construction activities occurring at 11 locations within this corridor with a combined length of 6.4 miles. Your letter transmitted the final Biological Assessment (BA) for this project to the U.S. Fish and Wildlife Service (Service) and requested that the Service concur with its determinations of effect for threatened and endangered species with regard to this proposed highway improvement project.

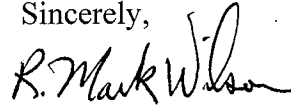
The species considered in your BA included the threatened bald eagle (*Haliaeetus leucocephalus*), threatened Canada lynx (*Lynx canadensis*), threatened grizzly bear (*Ursus arctos horribilis*), non-essential experimental gray wolf (*Canis lupus*), and candidate fluvial Arctic grayling (*Thymallus arcticus*). The Service believes that the activities associated with the proposed project, as described in the BA dated June 1, 2004, would not have the potential to cause an adverse effect to listed species nor to jeopardize the continued existence of candidate species. Therefore, we concur with the determination that this project would not be likely to adversely affect these species and formal consultation is not required. The Service bases its concurrence on information displayed in the BA, including project design features and the mitigation measures outlined in the BA that would be implemented as a part of this project to minimize effects to fish and wildlife species.

This concludes informal consultation pursuant to regulations 50 CFR §402.13 implementing the Endangered Species Act of 1973, as amended (Act). This project should be re-analyzed if new information reveals effects of the action that may affect threatened or endangered species, if the

project is modified in a manner that causes an effect not considered in this consultation, or if the mitigation measures are not fully implemented.

The Service appreciates your efforts to consider and conserve fish and wildlife resources, including threatened and endangered species. If you have questions about this letter or your responsibilities under the Act, please contact Scott Jackson at (406)449-5225, extension 201.

Sincerely,

A handwritten signature in black ink, appearing to read "R. Mark Wilson". The signature is fluid and cursive, with a large, stylized "W" and "S".

R. Mark Wilson
Field Supervisor

Copy to: Deb Wambach, MDT, Helena, MT
Todd Tillinger, COE, Helena, MT



United States Department of the Interior

FISH AND WILDLIFE SERVICE

MONTANA FIELD OFFICE
100 N. PARK, SUITE 320
HELENA, MONTANA 59601
PHONE (406) 449-5225, FAX (406) 449-5339

FILE COPY

*Agency Coord
- Coop Agencies*

Martha

M.44 MDT (I)

August 26, 2003

Laura Hunter
David Evans and Associates, Inc.
1331 17th Street
Suite 900
Denver, Colorado 80202

REC'D AUG 29 2003

Dear Ms. Hunter:

This is in response to your April 25, 2003 letter regarding Montana Department of Transportation's Gallatin Canyon: Slope Flattening/Widening project (STPHS 50-1(14)8; Control No. A544). The proposed project would construct nine turn bays, upgrade guardrails, flatten slopes, and replace bridges over the Gallatin River and Swan Creek along U.S. Highway 191 in Gallatin County, Montana. The project corridor is 77.25 kilometers long and the net length of construction within the corridor is 10.25 kilometers. Your letter requested a list of threatened and endangered species from the U.S. Fish and Wildlife Service (Service) that may occur near the proposed project corridor, as well as other comments or concerns we may have. These comments have been prepared under the authority of, and in accordance with, the provisions of the Endangered Species Act of 1973, as amended (Act) (16 U.S.C. 1531 *et seq.*) and the Fish and Wildlife Coordination Act (16 U.S.C. 661 *et seq.*).

In accordance with section 7(c) of the Act, the Service has determined that the following threatened, endangered, proposed and candidate species may be present in the vicinity of the project area. No critical habitat has been designated or proposed for any listed species in the project area.

Listed Species

Expected Occurrence

bald eagle (*Haliaeetus leucocephalus*); threatened

spring or fall migrant; winter resident

Canada lynx (*Lynx canadensis*); threatened

possible resident in general area

grizzly bear (*Ursus arctos horribilis*); threatened

transient or resident throughout area

gray wolf (*Canis lupus*); non-essential experimental

transient or resident throughout area

Candidate Species

Expected Occurrence

fluvial Arctic grayling (*Thymallus arcticus*)

Gallatin River system

On November 22, 1994, the Service approved a plan to establish non-essential experimental populations of gray wolves in Yellowstone National Park and central Idaho. Rules published in the *Federal Register* designate gray wolves in each area as non-essential experimental populations under section 10(j) of the Act. Within the designated non-essential experimental population areas described and depicted in the rules, all gray wolves will be managed in accordance with the provisions outlined in the rules, which include the following:

- a) For section 7 consultation purposes, wolves designated as non-essential experimental that are within the boundaries of any unit of the National Park or National Wildlife Refuge systems are treated as a threatened species. As such, the section 7 procedures for listed species would apply to Federal actions within National Parks and National Wildlife Refuges.
- b) Wolves designated as non-essential experimental that are not within units of the National Park or National Wildlife Refuge systems, but are within the boundaries of the non-essential experimental population area, are treated as proposed species for section 7 purposes. As such, Federal agencies are only required to confer with the Service when they determine that an action they authorize fund or carry out "is likely to jeopardize the continued existence" of the species.
- c) Wolves occurring outside the central Idaho and Yellowstone non-essential experimental population areas retain their threatened status.

This proposed project lies within the Yellowstone non-essential experimental population area. The experimental population area for the Yellowstone region includes the entire State of Wyoming, a portion of southeastern Idaho east of Interstate 15, and a portion of Montana east of Interstate 15 and south of the Missouri River.

Section 7(c) of the Act requires that federal agencies proposing major construction activities complete a biological assessment to determine the effects of the proposed actions on listed and proposed species and use the biological assessment to determine whether formal consultation is required. A major construction activity is defined as "a construction project (or other undertaking having similar physical impacts) which is a major federal action significantly affecting the quality of the human environment as referred to in the National Environmental Policy Act (NEPA)" (50 CFR Part 402). If a biological assessment is not required (i.e., all other actions), the federal agency is still required to review their proposed activities to determine whether listed species may be affected. If such a determination is made, consultation with the Service is required.

For those actions wherein a biological assessment is required, the assessment should be completed within 180 days of initiation. This time frame can be extended by mutual agreement

between the federal agency or its designated non-federal representative and the Service. If an assessment is not initiated within 90 days, this list of threatened and endangered (T/E) species should be verified with the Service prior to initiation of the assessment. The biological assessment may be undertaken as part of the federal agency's compliance of section 102 of NEPA and incorporated into the NEPA documents. We recommend that biological assessments include the following:

1. A description of the project.
2. A description of the specific area that may be affected by the action.
3. The current status, habitat use, and behavior of T/E species in the project area.
4. Discussion of the methods used to determine the information in Item 3.
5. An analysis of the affects of the action on listed species and proposed species and their habitats, including an analysis of any cumulative effects.
6. Coordination/mitigation measures that will reduce/eliminate adverse impacts to T/E species.
7. The expected status of T/E species in the future (short and long term) during and after project completion.
8. A determination of "is likely to adversely affect" or "is not likely to adversely affect" for listed species.
9. A determination of "is likely to jeopardize" or "is not likely to jeopardize" for proposed species.
10. Citation of literature and personal contacts used in developing the assessment.

If it is determined that a proposed program or project "is likely to adversely affect" any listed species, formal consultation should be initiated with this office. If it is concluded that the project "is not likely to adversely affect" listed species, the Service should be asked to review the assessment and concur with the determination of no adverse effect.

Pursuant to section 7(a) (4) of the Act, if it is determined that any proposed species may be jeopardized, the federal agency should initiate a conference with the Service to discuss conservation measures for those species. For more information regarding species of concern occurring in the project areas, including proposed and candidate species, please contact the Montana Natural Heritage Program, 1515 East 6th Ave., Helena, 59601, (406) 444-3009.

A federal agency may designate a non-federal representative to conduct informal consultation or prepare biological assessments. However, the ultimate responsibility for Section 7 compliance remains with the federal agency and written notice should be provided to the Service upon such a designation. We recommend that federal agencies provide their non-federal representatives with proper guidance and oversight during preparation of biological assessments and evaluation of potential impacts to listed species.

Section 7(d) of the Act requires that the federal agency and permit/applicant shall not make any irreversible or irretrievable commitment of resources which would preclude the formulation of reasonable and prudent alternatives until consultation on listed species is completed.

Power lines in the vicinity, if not properly constructed, could pose electrocution hazards for bald eagles. To conserve eagles and other large raptors protected by federal law, we urge that any power lines that need to be modified or reconstructed as a result of these projects be raptor-proofed following the criteria and techniques similar to those outlined in the publication, "Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996." A copy may be obtained from: Jim Fitzpatrick, Treasurer, Carpenter Nature Center, 12805 St. Croix Trail South, Hastings, MN 55033. The use of such techniques would likely be most beneficial adjacent to expected raptor foraging areas (i.e., stream crossings or wetlands that support populations of waterfowl).

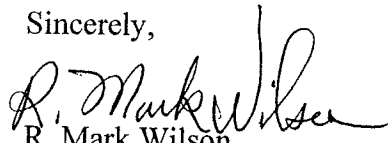
One of the components of the proposed project would be the construction of two new bridges. Bridges that do not allow for inevitable migration of the stream channel will require extensive erosion control in the foreseeable future. These increased bank stabilization activities, including riprap, have both indirect and direct cumulative impacts that significantly affect the physical, chemical and biological dynamics of the stream and its associated aquatic resources. As cumulative effects to these resources increase, the option to riprap and stabilize stream channels upstream of bridges may no longer be viable. The Service recommends that the design of stream crossings include an analysis of cumulative indirect and direct impacts including calculation of bedload dynamics and future bridge maintenance activities and the consideration of additional bridge length as a means of ameliorating these impacts.

It appears likely that the proposed construction activities may impact wetlands or other waters of the United States. If so, Corps of Engineers (Corps) Section 404 permits may eventually be required. In that event, depending on permit type and other factors, the Service may be required to review permit applications and will recommend any protection or mitigation measures to the Corps as may appear reasonable and prudent based on the information available at that time. We suggest that it would be prudent to design project components (i.e., bridges, retaining walls, etc.) such that they impact aquatic sites to the minimum extent possible.

Your letter also requested any comments we may have regarding parks, recreational sites, or wildlife refuges on or adjacent to the project corridor. Based on the information we have in this office and the maps you included with your request, there are no such lands administered by the Service in the immediate vicinity of the proposed project location.

We apologize for the late response to your information request. The Service appreciates your efforts to consider and conserve fish and wildlife resources, including threatened and endangered species. If you have questions regarding this letter, please contact Mr. Scott Jackson, of my staff, at (406)449-5225, extension 201.

Sincerely,


R. Mark Wilson
Field Supervisor



Montana Department
of Transportation

2701 Prospect Avenue
PO Box 201001
Helena MT 59620 1001

Marc Racicot, Governor

May 27, 1999

Paul Putz
State Historic Preservation Office
1410 8th Avenue
P.O. Box 201202
Helena, MT 59620-1202

Subject: STPHS-NH 50-1(17)
Gallatin Canyon Safety Improvements – Phase II
Control No. 2544/A544

RECEIVED

JUN - 1 1999

JUN 07 1999

STANLEY ENVIRONMENTAL

59060109

MASTER FILE
COPY

Enclosed is the cultural resource report and CRABS for the above project. The project area has been largely investigated for cultural resource sites before, so this report concerns only two locations near the mouth of Moose Creek and just south of the Gallatin River (Jack Smith) Bridge. No archaeological or historic sites were discovered within the designated survey areas.

If you have any questions, please contact me at 444-6258.

Jon Axline
Jon Axline, historian
Environmental Services

Enclosures

CONCUR
NO PROPERTIES ON OR ELIGIBLE
FOR NRHP APPEAR LIKELY TO
EXIST WITHIN PROJECT IMPACT AREA
MONTANA SHPO
DATE 6/13/99 SIGNED [Signature]

cc: Jason Giard, P.E., Butte District Administrator
Carl Peil, P.E., Preconstruction Bureau
Gordon Stockstad, Resources Bureau
Patrick Rennie, DNRC w/attachment



Montana Department of
ENVIRONMENTAL QUALITY

FILE COPY

Aquatic Coordinator
Cooperating Agencies

Judy H. Martz, Governor

P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • Website: www.deq.state.mt.us

July 17, 2003

Martz

DAVID EVANS AND ASSOCIATES
1331 17TH STREET, SUITE 900
DENVER CO 80202

Subject: BR-STPS 203-1(11)10
Florence -- East
UPN 4854

The West Fork of the Gallatin River and Squaw Creek are classified as water quality limited streams. The road construction project must employ all reasonable land, soil and water practices to prevent further impairments of these streams.

75-5-703 (9b) MCA states: *"Pending completion of a TMDL on a water body listed pursuant to 75-5-702 new or expanded non-point source activities affecting a listed water body may commence and continue provided those activities are conducted in accordance with reasonable land, soil, and water conservation practices..."*

17.30.602 (21) ARM: *"Reasonable land, soil, and water conservation practices" means methods, measures, or practices that protect present and reasonably anticipated beneficial uses. These practices include but are not limited to structural and nonstructural controls and operation and maintenance procedures. Appropriate practices may be applied before, during, or after pollution-producing activities."*

The beneficial uses of this stream are defined as B-1: *"Waters classified B-1 are suitable for drinking, culinary and food processing purposes, after conventional treatment; bathing, swimming and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl and furbearers; and agricultural and industrial water supply"* (17.30.623 ARM).

Standards specific to B-1 waters are: (f) *No increases are allowed above naturally occurring concentrations of sediment, settleable solids, oils, or floating solids, which will or are likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife* (17.30.623 ARM).

In addition, the construction project must follow ARM 17.30.637 which states: *"Pollution resulting from storm drainage, storm sewer discharges, and non-point sources, including irrigation practices, road building, construction, logging practices,*

REC'D JUL 21 2003

over-grazing and other practices must be eliminated or minimized as ordered by the department.

I have enclosed information from Environet on these streams. Please call me at 444-7425 if you have questions.

Sincerely,

Carole Mackin
Information and Education Coordinator

Enclosures. (1)

Hydrologic Unit Code

10020008

Watershed

GALLATIN

ID	Segment ID	Waterbody Segment	Size	Use Class	Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind	Probable Causes of Impairment	Probable Sources of Impairment
5	MT41H003_060	SMITH CREEK from headwaters to the mouth (Bear Cr)	7.5 M	B-I	P	P		X	N	F	F	Nutrients Siltation Bank erosion Riparian degradation Fish habitat degradation Pathogens Other habitat alterations	Agriculture Grazing related Sources
6	MT41H003_070	REESE CREEK from headwaters to the mouth (Smith Cr)	10.4 M	B-I	P	P		F	N	F	F	Nutrients Pathogens Suspended solids	Agriculture
7	MT41H003_080	ROCKY CREEK from headwaters to the mouth (East Gallatin R)	7.5 M	B-I	P	P		X	F	F	F	Siltation Bank erosion Channel incisement Riparian degradation Fish habitat degradation Other habitat alterations	Agriculture Highway/Road/Bridge Construction Channelization Construction Hydromodification
8	MT41H003_100	DRY CREEK from headwaters to the mouth (East Gallatin R)	16.3 M	B-I	P	P		F	N	F	F	Nutrients Siltation Bank erosion Riparian degradation Fish habitat degradation Other habitat alterations	Agriculture Grazing related Sources Channelization Hydromodification
9	MT41H003_132	HYALITE CREEK, Bozeman water supply intake to the mouth (E. Gallatin R)	20.4 M	B-I	X	X		X	P	X	X	Dewatering Flow alteration	Agriculture Crop-related Sources
10	MT41H005_010	SQUAW CREEK from headwaters to the mouth (Gallatin R)	13.7 M	B-I	P	P		X	F	F	F	Bank erosion Fish habitat degradation Other habitat alterations Nutrients Phosphorus	Silviculture Logging Road Construction/Maintenance

F = Full Support P = Partial Support T = Threatened N = Not Supported X = Not Assessed

Hydrologic Unit Code

10020008

Watershed

GALLATIN

ID	Segment ID	Waterbody Segment	Size	Use Class	Aqua Life	Cold Fish	Warm Fish	Drink Water	Swim (Rec)	Agri	Ind	Probable Causes of Impairment	Probable Sources of Impairment
11	MT41H005_020	TAYLOR CREEK, Lee Metcalf Wilderness boundary to the mouth (Gallatin R)	17.4 M	B-I	P	P		X	F	X	P	Siltation Fish habitat degradation Suspended solids Other habitat alterations	Silviculture Land Development Construction
12	MT41H005_030	CACHE CREEK from headwaters to the mouth (Taylor Fork)	3.9 M	B-I	P	P		X	F	F	F	Siltation Other habitat alterations Suspended solids	Grazing related Sources Silviculture Logging Road Construction/Maintenance Agriculture
13	MT41H005_040	WEST FK GALLATIN RIVER, Confluence Middle & North Fks of the West Gallatin to the mouth (Gallatin R)	3.7 M	B-I	P	P		F	N	F	F	Nutrients Siltation Algal Grwth/Chlorophyll a	Silviculture Land Development Construction Land Disposal
14	MT41H005_050	MIDDLE FK OF WEST FK GALLATIN RIVER, Headwaters to mouth (West Fk Gallatin R)	6 M	B-I	P	P		F	P	F	F	Nutrients Bank erosion Pathogens Suspended solids Other habitat alterations	Highway/Road/Bridge Construction Agriculture Intensive Animal Feeding Operations Construction Urban Runoff/Storm Sewers Land Disposal
15	MT41H005_060	SOUTH FK OF WEST FK GALLATIN RIVER, Headwaters to mouth (West Fk Gallatin R)	13.8 M	B-I	P	P		F	P	F	F	Nutrients Siltation Bank erosion Fish habitat degradation Algal Grwth/Chlorophyll a Other habitat alterations	Silviculture Logging Road Construction/Maintenance Land Development Construction Land Disposal



Montana Fish, Wildlife & Parks

1420 East Sixth Avenue

P O Box 200701

Helena MT 59620-0701

December 2, 2003

(Logged) (Laura) Martha
FILE COPY
File
Copy Coordinator

Laura L. Hunter
Environmental Planner
David Evans & Associates, Inc.
1331 17th Street, Suite 900
Denver, CO. 80202

REC'D DEC 04 2003

Subject: Gallatin Canyon Slope Flattening/Widening
STPHS 50-1(14)8 Control No. A544

Dear Ms. Hunter:

In response to your letter regarding the above project, Montana Fish, Wildlife & Parks (FWP) does own two properties in the project vicinity: Gallatin Wildlife Management Area and Kirk Wildlife Refuge. Maps of each of these properties are enclosed. In addition, FWP leases a small site referred to as the Gallatin Check Station in Section 5, T4S, R4E. None of these properties were acquired or developed with funds provided by the National Land & Water Conservation Fund. However, the Gallatin Wildlife Management Area was acquired with federal funds provided through the Pittman Robertson Wildlife Restoration Act. This federal encumbrance requires replacement mitigation very similar to LWCF 6(f). I am not aware of any imminent new acquisitions proposed by FWP in the project vicinity. However, this particular area of the state has significant importance for fish, wildlife, and recreation use. A copy of your inquiry will be forwarded to the FWP Federal Aid Coordinator, Adam Brooks, and the FWP Regional Office in Bozeman in case they wish to offer additional comments.

In regard to other potential 4(f) properties, we do not keep information on lands owned or operated by others that would qualify for 4(f) treatment. This part of your inquiry would be better addressed through ownership records or on the ground research.

FWP is also responsible for oversight of the state side of the Land and Water Conservation Fund (LWCF). There are many local municipalities with LWCF-assisted outdoor recreation sites. If proposed construction or land acquisition activities would affect such locally owned recreation or park facilities, please contact Walt Timmerman of the Helena FWP office with site names. Walt will be able to check LWCF database files and provide the LWCF status of each named site. Thank you for the opportunity to comment.

Sincerely,

Debby Dils
Land Section Supervisor

Cc: R3, Walt Timmerman, Adam Brooks

FWP

6242

5876

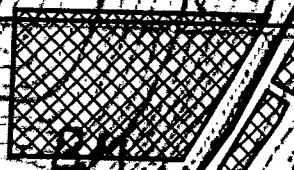
Kirk Wildlife Refuge

T4S R4E Sec 8

5960

7191

8154



7165

GALLATIN

6084

5898

GALLATIN
NATIONAL FOREST





GALLATIN

BLUER
WEST GALLATIN CANAL

GALLATIN



LAND ACQUISITION TYPE

-  Fee Acquisitions
-  Agreements, Leases and Easements
-  Conservation Easements
-  Other Lands Managed by FWP

Site No: 3035



0 8000 16000

Scale in feet
Scale 1:97000

Wildlife Management Areas from Montana Fish, Wildlife & Parks. Wildlife Management Areas digitized at 1:24,000 from USGS 7.5 minute quadrangle topographic maps or using the COGO module of ARC/INFO from Certificates of Survey by Montana Fish, Wildlife & Parks, Information Services Unit, Kallispell and Natural Resource Information System, Montana State Library, Helena, MT. Some sites adjusted to match base map for display only.

Wildlife Management Area boundaries are accurate as of 6/01. Management by FWP does not imply Public Access. Please determine before entry on lands.



Map produced by NRIS,
request# 00FWP38 - December 21, 2001



**Montana Fish,
Wildlife & Parks**

FILE COPY

Martha
Agency Coordinator
- Cooperating Agency

1400 S. 19th Street
Bozeman, MT 59718

Laura Hunter
David Evans and Associates
13371 17th Street, Suite 900
Denver, CO 80202

REC'D JUL 29 2003

July 11, 2003

Dear Ms. Hunter:

We reviewed your "cooperating agency request" regarding the Gallatin Canyon: Slope Widening/Flattening Project. Unfortunately, workload issues made it difficult to respond in a more timely manner. While we will attempt to answer your requests for information, several detailed requests will require more time than we have available. For this reason, our comments will be relatively general.

Montana Fish, Wildlife and Parks currently administers the following lands within the project area: T 9S R5E S7, T7S R4E S9, SW 1/4 S 4, and NW1/4 S 16. These lands are part of our Gallatin Wildlife Management Area, which were purchased with sportsmen's dollars and Federal PR funds. These lands are managed primarily as wildlife habitat, but also provide valuable recreational access.

Our primary concerns regarding the project relate to the West Gallatin River and its tributaries. Historically, US 191 has substantially impacted fisheries habitat and hydrology of streams along its course. We emphatically recommend that any further impacts to the streams due to this project be avoided. For example: retaining walls are mentioned in the project description at a number of locations. Retaining walls should not intrude into floodways or active channels of the West Gallatin River or its tributaries to avoid hydrologic impacts to the river. Designs should avoid any further encroachment of highway structures into any active channel or floodway.

Bridge replacements at the West Fork of the West Gallatin River and Swan Creek should at a minimum retain the current flow capacity. The bridge at Swan Creek appears to be undersized so consideration should be given to expanding the bridge length and capacity.

The Gallatin National Forest has recently assessed culvert crossings along US 191 for fish passage. We suggest you contact Scott Barndt, Fisheries Biologist, to obtain access to their results. His phone number is (406)-522-2544. In general, fish passage should be analyzed for rainbow trout of 6 inches and greater in length to ensure that upstream fish passage is unimpeded at typical spring flows.

Fish species present include native westslope cutthroat trout, mountain whitefish, mountain sucker, longnose sucker, white sucker, longnose dace, and mottled sculpin. Non-native species supporting a popular trout fishery include rainbow trout, brown trout, and brook trout. Rainbow trout are the predominant species, averaging 9.7 inches long in fall 2002, (range 3.8 – 15.0 inches). Brown, brook, and cutthroat trout are much less abundant, so rainbow trout are our primary indicator species.

Our primary concern with regard to wildlife issues along the whole stretch of proposed highway improvements, are the unimpeded flow of wildlife across Hwy 191. That concern is heightened along the stretch between Karst and the Big Sky turn off with respect to bighorn sheep. The highway is located in the middle of an area that provides connectivity between the Madison and Gallatin Mountain ranges and as such continual movement of wildlife back and forth across the highway is expected and should be allowed. We would ask that along the entire stretch, reconstruction projects are done in a way that will not significantly limit movement across the highway, nor impede movement off the highway for wildlife.

The winter range for a native bighorn sheep population is located along the stretch of highway from Karst to the Big Sky turnoff. This population has been struggling since 1995 and currently there is no hunting season. There have been numerous sheep deaths along this stretch, which has created concern with the public, including the Foundation for North American Wild Sheep. We would specifically request that "sheep crossing/on the highway signs" (with yellow caution lights) be considered for this stretch of highway.

It is not uncommon to observe moose, elk, mule deer, sheep and occasionally, black bear, grizzly bear, wolf, and mountain lion crossing at random points along this stretch of highway.

There have been a number of agency reports, assessments and research done by a variety of parties in the Gallatin basin. We by no means have a comprehensive list to offer you. However, if you would like to make an appointment to look through our files and library, please feel free to contact me at (406)-994-4042.

We certainly support the project objective of improving public safety on US191. Thanks for the opportunity to review the project and offer comments.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. J. Flowers', with a stylized, looping flourish at the end.

Patrick J. Flowers
Regional Supervisor

C: Scott Barndt, Gallatin National Forest

DEPARTMENT OF NATURAL
RESOURCES AND CONSERVATION
BOZEMAN UNIT OFFICE

*Agency 508
Top Signature*

FILE COPY

Martha



JUDY MARTZ, GOVERNOR

STATE OF MONTANA

(406) 586-5243
FAX: (406) 587-9726

151 EVERGREEN - SUITE C
BOZEMAN, MONTANA 59715-2487

Bozeman Unit
151 Evergreen, Suite C
Bozeman, MT 59715

September 12, 2003

David Evans and Associates
ATTN: Laura Hunter
1331 17th Street, Suite 900
Denver, CO 80202

REC'D SEP 18 2003

Dear Ms Hunter;

MDNRC does not have any surface ownership in the project area, however the state does claim ownership of the Gallatin Riverbed from the point where Taylor Fork enters the river, down to Central Park which is several miles north of the project area.

Question 1 – No

Question 2 – There is an abandoned asbestos mine somewhere in the canyon but I am not certain where. It is on National Forest Land.

Question 3 – No

Question 4 – No

Question 5 – No

Question 6 – No

Question 7 – No

Thank you for the opportunity to comment on the project.

Sincerely,

A handwritten signature in cursive script, appearing to read "Jim Kalitowski".

Jim Kalitowski
Bozeman Unit Manager

DEC 19 2001 11:00
DLR SPURRING
509 3277345 P.02/10

Thank You

This is the information you sent to the Montana Natural Heritage Program:

The following message was submitted from the Montana Natural Heritage Program request form at <http://nhp.mns.state.mt.us/requests/request.html> on 12/17/2001 at 2:58:24 PM Mountain time by dwambach@state.mt.us.

name: **Deborah Wambach**

address1: **MDT**

address2: **2701 Prospect Ave**

city: **Helena**

state: **MT**

zipcode: **59620-1001**

phone: **406-444-0461**

email: **dwambach@state.mt.us**

refnum: **2544**

infotype: **elemental occurrences of threatenend and endangered species, sensitive species, critical habitat, etc.**

searcharea: **NH Route 50 (US 191) in Gallatin County from Gallatin Gateway to West Yellowstone (T4S,T5S,T6S, T7S, T8S, T9S and R4E, T9S and R5E)**

reason: **Bridge replacements over Swan Creek and W. Fork Gallatin, turn lanes, slope flattening, widening, etc.**

comments: **Thanks. This is a long corridor that follows US 191. I didn't include all the Sections, but you can easily find them if needed on the County Maps (p88-90).**

Your mail has been sent!

[Return to the Heritage Program Home Page](#)

Needs
BA
LOC



Montana Department of Transportation
Threatened & Endangered Species
and Biological Resources Report

Project Biologist: Deborah A. Wambach **Date:** 1/28/02

Project Name: Safety Improvements - Gallatin Canyon (Phase II)

Project Number: STPHS 50-1(14)8 **Control #:** A544 (2544)

Watershed Number: 6 Upper Missouri

Project Description: Slope flattening and left-turn lane or two-way turn lane installation (with potential culvert extensions) at various locations throughout Gallatin Canyon to include the replacement of two bridge structures; one over the West Fork of the Gallatin and the other over Swan Creek.

Project Location: NH Route 50 (US 191) at various locations between RP 32.0 and RP 70.0 in Gallatin County.

Critical Resources: Gallatin River, West Fork Gallatin River, Swan Creek, National Forest Campgrounds, Class III Wetlands, Large Carnivore Critical Habitat and Linkage Zones

SPA 124 Permit Required: Yes ☒

CWA 404 Permit Required: Yes ☒

USFWS Informal Consultation Concurrence Required: Yes ☒

Potential restrictions based upon the most recent project description or project design: Potential timing restrictions for work affecting the Gallatin or West Fork of the Gallatin River, and Swan Creek to protect spawning fish species. Recommended restrictions on some slope flattening (fill) areas to avoid impacts to river and/or wetland areas.

Determination of Effects:

This project, as proposed on this date, is **"Not Likely to Adversely Affect"** a Proposed Candidate Species or a listed Threatened or Endangered Species. ☒

This project, as proposed on this date, is **"Not Likely to Adversely Affect"** the general biological resources in the vicinity of this project. ☒

Prepared By
Deborah A. Wambach
Butte District Biologist

Approved By
Gordon J. Stockstad
Resource Bureau Chief

Attachment

cc: J. Giard
C. Peil

J. Kolman
J. Riley

G. Stockstad
M. Goodman

L. Urban
D. Wambach

File

Threatened & Endangered Species and Proposed /Candidate Species
Potentially Occurring in the Project Area

Threatened and Endangered Species	Occurring in Project Area (Y or N)	May Affect (Y or N)	Comments
Mammals			
Gray wolf (E)	Y	N	Western MT
Grizzly bear (T)	Y	N	Greater Yellowstone area
Black-Footed ferret (E)	N	N	
Birds			
Bald eagle (T)	Y	N	Black Butte 018-021 (T9S, R5E, S34) 1° Feeding area
Least tern (E)	N	N	
Piping plover (T)	N	N	
Whooping crane (E)	N	N	
Fish			
Bull trout (T)	N	N	
Pallid sturgeon (E)	N	N	
White sturgeon (E)	N	N	
Plants			
Water howellia (T)	N	N	
Ute ladies' tresses (T)	N	N	
Proposed / Candidate Species	(Y or N)	(Y or N)	
Canada lynx (prop. T)	Y	N	Statewide forested areas
Swift fox (cand.)	N	N	
Mountain plover (prop. T)	N	N	
Spalding's campion (prop. T)	N	N	
Sturgeon chub (cand.)	N	N	
Sicklefin chub (cand.)	N	N	
Arctic grayling (cand.)	Y	N	Rare to Tepee Creek
Warm spring zaitzevian riffle beetle (cand.)	N	N	

Notes: Gallatin Canyon has been identified as a key linkage zone for large carnivores including the Gray Wolf, the Grizzly Bear, and the Canada Lynx (American Wildlands, B. Ruediger et al.). Additionally, an active Bald Eagle nest is located over 1 mile off of the highway at Black Butte. While the nest site will not likely be disturbed by the proposed construction activities, the Gallatin River is likely a primary feeding area for this pair and other resident bald eagles. The candidate species Arctic Grayling is known to occupy the Gallatin River throughout this stretch. Potential timing restrictions may be issued in the SPA 124 or CWA 404 permit that protect the spawning of this (or other game fish) species. US 191 experiences relatively high traffic volumes throughout the canyon and has recently been further developed along the highway, especially near Big Sky. Because of the limited proposed scope of work in segmented areas over 40 miles of highway, the minimization of new right-of-way purchase and of the construction footprint, and in light of the development that has already occurred in the canyon, it is thought that, given certain conservation measures, the proposed project will *not likely affect* the above mentioned threatened, endangered, or candidate species. A limited Biological Assessment will be completed for USFWS review and informal consultation; a letter of concurrence will be requested.

**Sensitive Species, Wetlands, Rivers/Streams, Fisheries,
General Wildlife, and Noxious Weed Reports**

MONTANA NATURAL HERITAGE PROGRAM - SENSITIVE SPECIES

MNHP - Contacted (Y or N)		Y
Sensitive Species in Project Area Identified by MNHP	May Affect (Y or N)	Comments
Slender Indian Paintbrush	N	Fan Creek Drainage (10S, 5E, 24)
Stonefly (<i>isoperla petersoni</i>)	N	Gallatin River (10S, 5E, 13)
Small-Winged Sedge	N	Specimen Creek (9S, 5E, 35)
Slender Indian Paintbrush	N	Daly Creek (9S, 5E, 17)
Slender Indian Paintbrush	N	Gallatin River (6S, 4E, 33)
Boreal Owl	N	Hidden Creek (6S, 5E, 19)
Gallatin Mountain Snail	N	Squaw Creek (4S, 4E, 34)
Peregrine Falcon	N	Storm Castle (4S, 4E, 34)
Heron Rookery	N	Gallatin Gateway (3S, 4E, 22)

Notes: While each of these sensitive species occurs near the project corridor, the segmental locations of the proposed project over 40 miles along Highway 191 should not adversely impact these species. The plants are located far enough up the named drainages that work along US 191 will not directly affect them. The stonefly and avian species are found in areas removed from US 191 and/or in locations not directly associated with the proposed work. Because of the limited proposed scope of work, the minimization of new right-of-way purchase and of the construction footprint, and in light of the development that has already occurred in the canyon, it is thought that the proposed project should not affect the above listed sensitive species.

WETLANDS

Wetland Category	Location	May Affect (Y or N)	Acres Affected by this Project	Estimated (E) or Delineated (D)	Comments
Category III	STA 300+00 - STA 303+60 West	Y *	~1.5	E	With active channels and connectivity to Gallatin R.
Category III	STA 227+00 - STA 228+40 East	Y	~1.0	E	Floodplain to Gallatin R.
Category III	STA 222+00 - STA 223+40 East	Y	~1.0	E	Wet meadow floodplain
Total Wetland Acres Affected by Project			< 3.5		

Notes: * It is highly recommended that the proposed slope flattening between STA 300+00 and STA 303+60 West be dropped. This section warrants guardrail as slope flattening into the Gallatin River is not acceptable and impacts to the wetland on the inside of the curve should be avoided. This Class III wetland has direct connectivity to the Gallatin River and supports active and flowing channels through an otherwise diverse emergent community, providing floodplain function and wildlife habitat along the highway corridor. If work is to be done along this curve, the existing culverts will need to be addressed, and connectivity to the river will have to be perpetuated. It is believed that this section warrants guardrail and that the proposed slope flattening will create unnecessary impacts to the river and the wetland at this location.

Wetlands are also located at the toe-of-slope along the PTW at STA 227+00 through STA 228+40 and STA 222+00 through STA 223+40 East. It is anticipated that the proposed left-turn lanes may impact a minor portion of these wetlands located along the toe-of-slope. Actual impact calculations cannot be completed until the construction limits are known. It is doubtful that on-site mitigation is possible due to the limitations of the canyon topography and the continuing development of the land adjacent to the highway. It is likely that off-site mitigation will be required for approximately 2.0 acres of wetland impact.

RIVERS AND STREAMS

Rivers and Streams	E - Ephemeral I - Intermittent P - Perennial	Location	May Affect (Y or N)	Length of Channel Affected * (+, -, &/or ~)
Swan Creek	P	STA 106+80	Y	~ 90 feet
Beaver Creek	P	STA 267+90	Y **	
W. Fork Gallatin	P	STA 223+85	Y	~ 150 feet
Gallatin River	P	STA Throughout	Y ***	
Total Channel Length Affected * (+, -, &/or ~)				~ 240 feet (riprap)
<p>* note: "+" indicates that a channel will be lengthened or restored. "-" indicates a reduction in channel length. "~" indicates an impact, i.e., riprap, but no change in stream length.</p>				

Notes: The structures across Swan Creek and the W. Fork of the Gallatin will be replaced and widened under the scope of this project. Due to the boulder/cobble substrate of the Gallatin River and these two tributaries, the minimum amount of riprap will be designed to protect the abutments/end-bents, and the riprap will be blended to match the natural channel configurations up and downstream of the structures. Consideration is being given to "soft-armoring" and/or topsoil and seeding of the riprap above the 2-year floodplain elevation.

****** Beaver Creek, downstream of the US 191 culvert crossing, was just restored in the summer of 2001 through a partnership between MDT, Trout Unlimited, and MFWP. This restoration greatly enhanced stream morphology, eliminated the fish barrier, and received accolades from the local, resource, and transportation communities alike. It appears that the proposed installation of the two-way left-turn lane at this location may require that the existing culvert be extended. It is highly recommended that any work proposed involving Beaver Creek not interfere with the newly restored channel downstream of the culvert. If the culvert requires lengthening, fish passage and the newly restored integrity of the channel must be perpetuated.

******* The Gallatin River parallels the highway throughout the canyon. The river runs along the toe of the existing slope at several locations where slope flattening, widening, or left-turn lane installations are proposed. Fill slopes of any kind will not be allowed in the Gallatin River. It may be necessary to shift the alignment of the highway away from the river in order to accommodate new fill slopes. All fill materials must be kept out of the Gallatin River unless otherwise permitted by the appropriate agencies. Best Management Practices and erosion control measures must be employed and maintained throughout construction in areas where the proposed construction limits parallel the river.

FISHERIES RESOURCES

NRIS Data Reviewed or Received	(Y or N)	Date Review Completed
	Y	December 2001

MT Fish, Wildlife & Parks Regional Biologist Contacted - (name & office)	(Y or N)	Date Contact Made or Information Received
Pat Byorth - Bozeman office	Y	January 2002

Fisheries Resources	Location (Waterbody)	May Affect (Y or N)
Brook Trout	Swan Creek	N
Brown Trout	Swan Creek	N
Mountain Whitefish	Swan Creek	N
Mottled Sculpin	Swan Creek	N
Rainbow Trout	Swan Creek	Y
Brown Trout	W. Fork Gallatin	N
Mottled Sculpin	W. Fork Gallatin	N
Mountain Whitefish	W. Fork Gallatin	N
Rainbow Trout	W. Fork Gallatin	Y
Westslope Cutthroat Trout	W. Fork Gallatin	N
Arctic Grayling	Gallatin River	N
Brook Trout	Gallatin River	N
Brown Trout	Gallatin River	N
Longnose Dace	Gallatin River	N
Longnose Sucker	Gallatin River	N
Mottled Sculpin	Gallatin River	N
Mountain Sucker	Gallatin River	N
Mountain Whitefish	Gallatin River	N
Rainbow Trout	Gallatin River	N
Westslope Cutthroat Trout	Gallatin River	N
White Sucker	Gallatin River	N
Yellowstone Cutthroat Trout	Gallatin River	N

Notes: The Gallatin River and its tributaries support an array of Montana native and game fish. Its waters and fisheries are known and revered by Montanans and tourists alike. Resident fish such as the brown and brook trout have demonstrated a greater tolerance to temporary disturbances, such as construction activity, than their migratory counterparts such as the rainbow trout. Both Swan Creek and the W. Fork of the Gallatin are important spawning streams for the Gallatin rainbows. Rainbow trout in the canyon typically begin to move in mid-November and spawn throughout the late spring (P. Byorth, RWP). Therefore, it is anticipated that a timing restriction for construction activities in the

be required on in-stream work associated with the bridge replacements over these tributaries. Additionally, clear spans are recommended for each of the crossings along with the absolute minimum amount of riprap due to the natural stability and substrate composition of these tributaries at the confluence with the Gallatin River. Fill of any kind into the Gallatin River throughout the project corridor will not likely be permitted. BMP's and erosion control measures must be install and maintained throughout construction to prevent inadvertent sedimentation and erosion potential into the Gallatin River. Final restrictions and recommendations will be made at the time of the SPA 124 Permit acquisition.

GENERAL WILDLIFE RESOURCES

Notes: The Gallatin Canyon provides forested and riverine habitat for a variety of Montana wildlife species including large ungulates and large carnivores, raptors, aquatic species, and plant life. US 191 bisects the Gallatin National Forest and parallels the Gallatin River throughout the canyon. The proposed work is meant to alleviate traffic congestion throughout the further developing canyon, and thereby improve the safety of the traveling public. Additionally, easing the traffic congestion, especially throughout the ski season and summer tourist season, will likely increase the permeability of the highway corridor to migrating wildlife. The canyon has recently experienced a great deal of residential and business development along the US 191 Highway, especially near Big Sky.

In light of this development and the precedence of a highway corridor, it is thought that, given BMP's and other recommended conservation measures or suggested restrictions, the limited scope of this project proposed at thirteen (13) segmented locations totaling less than eight (8) miles of turn lane installation or slope flattening over forty (40) miles of highway will *not adversely affect* general wildlife in the area, threatened or endangered species, or sensitive species found within the Gallatin National Forest ecosystem. The two proposed bridge replacements over Swan Creek and W. Fork of the Gallatin River should also *not adversely affect* general wildlife in the area, threatened or endangered species, or sensitive species found within the Gallatin National Forest ecosystem.

NOXIOUS WEEDS

Noxious Weeds Identified in the Project Area		* Degree of Infestation
Spotted Knapweed		Patchy Throughout
Canada Thistle		Infrequent
* Note - Definitions for "Degree of Infestation" - Infrequent, Patchy Throughout, Uniform Throughout		
County Weed Board or Extension Agent Contacted - (name & office)	(Y or N)	Date of Contact
Dennis Hengel	N	

Notes: Phil Johnson, MDT Agronomist, indicated that the above two listed species of noxious weed are of greatest concern in Gallatin Canyon. The corridor along US 191 is either already developed to some extent, or borders Gallatin National Forest. Following any proposed slope flattening or widening into new right-of-way to accommodate new turn lanes, it is imperative that prescribed reclamation and seeding are completed in an expeditious and conscientious manner. Any equipment brought into the canyon for construction should be properly power-washed and cleaned upon entering or leaving the canyon area. Unnecessary ground disturbance should be avoided throughout construction. Proper BMP's and erosion control measures must be installed and maintained to avoid inadvertent sedimentation and weed dispersal into the river systems.

Appendix C – Public Involvement

RECEIVED
 SEP 06 2002
 ENVIRONMENTAL

**GALLATIN CANYON SAFETY IMPROVEMENT PROJECT
 PUBLIC MEETING MINUTES**
 Buck's T-4 Lodge, Big Sky, MT
 August 28, 2002

STPHS 50-1(14)8
 CN A544

WELCOME

Sternberg

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	36 Traffic Eng																			
	39 Consultant Dsn.																			
	D. Noem																			
	J. Giard																			
	File																			

John Robinson: Thank you all for coming. If you didn't sign in when you came in tonight, please do so before you leave. We ask people to sign in so that if we have another meeting in six months or so, we can contact to you from this list. Also if you haven't picked up comment forms and handouts, please do so. You can make a written comment and send it directly to Jason Giard - there are 30 days allowed for that. My name is John Robinson from the Public Involvement Section of the Montana Department of Transportation. The purpose of our meeting tonight is to discuss safety improvements on the Gallatin Highway.

Our meeting format tonight is that first Jason Giard will present the complete project and walk through it step-by-step explaining the reasons for the project and proposed activities. After Jason is finished, we will open it up for your comments, questions, and concerns. To maintain order, I ask that only one person speak at a time. Just raise your hands and I will come around with the microphone. Please state your name before you speak and if you own property or a business along the road, it would help us if you would explain what business you own. That way we will all get a better understanding of where you are. Also if we have to go back over the recording to check on comments, we will know who is speaking. After the meeting we will stay later so you can meet with us one-on-one to get into particulars if you would like to do that.

First of all I would like to make some introductions. Jason Giard, the District Two Administrator and ultimately the person responsible for this project, will explain the project tonight. There are also some other people I would like to introduce tonight from the Department of Transportation.

- Wayne Noem, MT Dept. of Transportation, Civil Eng. Specialist Traffic Safety Bureau
- Jason Giard, MT Dept. of Transportation District, District Administrator
- John Ulberg, MT Dept. of Transportation, Butte District Area Engineer
- Dennis Dietrich, MT Dept. of Transportation, Road Designer for this project
- Deb Waanbach, MT Dept. of Transportation, Environmental Bureau
- Gordon Stockstad, MT Dept. of Transportation, Environmental Bureau
- Roger Schultz, MT Dept. of Transportation, Butte District Road Design Supervisor
- Gene Kaufman, Federal Highway Administration

PRESENTATION

Jason Giard: Thank you for coming tonight. This is the third meeting we have had on several phases of this project. It has been a long time in coming. We've done a lot of work already on the first phase. The second phase, which is the turn bays, is quite a bit more difficult than the first phase. I see a few familiar faces who have been following the progress of this project and

who were here for some of the other meetings. I imagine some of you are hoping we will get busy and get them built pretty quick. Anyway, thank you for coming.

I have several things I want to go over. I've got a bunch of slides showing all of the locations we are working on. We also have display boards around the room. The display boards start on this side (referring to graphics) down at far south end of the project at Buffalo Horn at the 320 Ranch where the first left-turn bay is and then go around the room all the way to the end of the project, which is a slope flattening just south of Spanish Creek.

We can run through the slides and answer general questions first. Then we can go through every specific site and try to answer questions on each specific site. I've got a couple of general comments to go through first. Basically the project is Phase II of what originally started out as a three-phase project. The first phase was to go through and try to improve safety by eliminating a lot of the hazardous turnouts and also making the turnouts we left in a lot safer – make them flat and wide and also sign them so people would know where they are. That project was completed a couple of years ago. We also included a lot of delineators and the tall delineators that are attached to the regular delineators. We think we did a lot of good because the accident statistics are continuing to go down even though we have more and more traffic on the road every year. We handed out a sheet showing some of the accidents. They haven't gone down a lot but they've gone down some with fewer fatalities, which was our goal. We think the left-turn bays are really going to help increase safety because a lot of the fatalities have been people parked in the middle of the road waiting to make a left turn and somebody ran into the back of them or several cars ran into the back of them. The other thing we are trying to do with the left-turn bays for the short section we are improving, is to improve the overall safety of the area by filling in the ditches and making flat 6:1 slopes, moving the ditches farther out away from the road, and leaving a good recovery area for people who do go off the road in those areas.

As everybody knows the road is narrow and winding. We are trying to do spot improvements to fix the areas where the most turnover accidents occur and also the areas where there is a high number of left-turn bays. The slide we are showing now shows the general area starting down at the south end at milepost 36, which is Buffalo Horn, and milepost 68, which is just short of Spanish Creek. These are the new turn bays that we are looking at (referring to slide) and we will go through these one at a time. I will leave this up here while we go through some other things.

We do have an environmental document that we are doing on this project; it is called Categorical Exclusion. It is our simplest form of environmental document. Even though this project seems to be fairly complex with a lot of areas, we are going to try to do absolutely everything we can to not affect the environment. In every case we are going to stay out of the Gallatin River – we have some Gabion walls we will put in to do that. We have some minor impacts on some of the side-rivers like the West Gallatin and also at Swan Creek where we are putting in new bridges.

A lot of you might not be surprised about the traffic, but right now the traffic is about 3,430 cars per day and in 20 years we are expecting it to go up to 9,990 – just short of 10,000. That is a guess but if you look at how fast the traffic is increasing – every year it gets busier and busier. Although when you are projecting 20 years out and have that high traffic, it is possible that at some point the traffic will get heavy enough that some of the through traffic will choose to take another route and go someplace else rather than go through Gallatin Canyon.

The cost of this project is a little over \$6 million for the construction. The buying of right-of-way and moving utilities is an additional cost on top of that. So the total cost of this project could approach \$9 million.

The schedule for the project: we are looking at finishing the design in the next year-and-a-half to two years. We are fairly far along since the last public meeting. We have actual plans available for you to look at after the meeting and you can look at your specific location and where the slopes are going. Our next step is to define exactly how much right-of-way we have and how much we need to buy. We haven't done that yet. Then in the spring of 2004 we are going to go out and contact the landowners and start buying the right-of-way that we need. Then in the spring of 2005 we will construct this project.

These are the slope flatten areas (referring to slides). This is a simplified version of the typical section. The left-turn bays are going in the middle. From Big Sky south we are going to have a 14-foot left turn bay. From Big Sky north to narrow it down a little bit, we are going to have a 12-foot turn bay. The driving lanes will be 12 feet in all locations with four-foot shoulders. You can see on the "typical" that we have 5:1 side slopes in those locations.

Now I will go through the slides and show you all the locations. Then we will open it up for questions. We will start at Buffalo Horn and then go all the way through the project.

Buffalo Horn: (Referring to slide) this is looking north at Buffalo Horn Ranch. There is only a turn there so the left-turn bay will actually be from the north. The left-turn bay will be going in this direction. It will have to be widened on the other side at all locations for the shadow of the left-turn bay. This is the first location. The pictures over here are very specific (referring to graphic) if any of you looked at them. This shows where the turn-bay starts and some of the features we have to do. If you look carefully on this map (referring to graphic) you can see we have to install Gabion walls to stay out of the river on both locations.

Question: What is a Gabion wall?

Answer: I will explain what a Gabion wall is. Gabion walls are large wire baskets that are filled with rocks. You fill them with rocks and then set them in place and you can

stack them up to get various different heights. It keeps the fill slopes from going into the river. They work pretty well and look pretty good – they don't stick out a lot. They look mostly like rocks and we will use natural rock for the area. You can see the wire. We use them in a fair amount of places and they look pretty good.

Question: Will they be visible from the highway?

Answer: They won't be visible from the highway. They will be visible if you are rafting on the river. There are a lot of rafters so a lot of people will see them. If you are on the highway, you won't see the Gabion walls.

Question: Will they be permanent?

Answer: They will be permanent. In the areas where the Gabion walls are, there will be guardrail up above them. In a lot of the locations, there is already guardrail now.

Question: Does it get into the river?

Answer: No. The Gabion walls are actually above the high water mark of the river for most parts. Unless we have some unusual year, but I think they are even above the 100-year flood mark. We don't want to get in the river at all with this project. The only places where they will be near the water are in Swan Creek and at the West Gallatin River.

Red Cliff Campground: The next location is Red Cliff Campground, which everyone is pretty familiar with (referring to slide). That is the second board over at this location (referring to graphic). On the north side we are putting in one Gabion wall at that location. As you can see there is quite a bit of room here. Widening out the roadway is basically going to move it out. The left-turn bay is 14-feet wide in this location and the shoulders are four-feet wide, so you can see we will have to widen out about nine feet on each side and then fill in the ditches. You can get a pretty good idea of how far that will go. This view is looking south at the Red Creek Bridge Cliff Campground. The Gabion wall is actually going to be over in this area (referring to slide) behind the river.

Rainbow Ranch: This is just north of the Rainbow Ranch. This is an area where there isn't a left-turn bay and is just a slope flattening. Basically, we will be widening the road just enough to get a four-foot shoulder and then we will flatten the slope. So the shoulder will go out and this ditch will be filled in and moved out in this area (referring to slide). I've got a couple of pictures of this. It goes for quite a ways. (Referring to slide) This is looking north again after you go around the curve and right up ahead in this area is the MDT maintenance house.

This is looking south at the same area -- there is the maintenance house. Basically in this area, we will be filling in the ditches making the slopes a lot flatter and a lot safer. We have had quite a few rollovers at this location.

Ophir School: This is looking north at Ophir School -- it is kind of hard to see the school because it is behind the trees. In this area all the way though Big Sky we are going to have a continuous left-turn median. So we will have to widen the road all the way. At one time we were going all the way down past this location, but we had a little bit of a problem at Beaver Creek. I don't know if any of you are familiar with the pipe at Beaver Creek, but there was about a four-foot drop at the end of the pipe so fish couldn't get up the culvert. So we came in last year and filled that in and made a nice pool with a rock dam so now the fish can actually go up and get through the culvert now and go on up stream. So with our project, we are going to try to avoid that area so we don't have to disturb it again.

North End: This is the far north end of the project. There were a lot of people in this area that were asking questions before the meeting. This is the West Fork of the Gallatin River. Because we are widening this area, we have to put in a brand new bridge at this location. It will include a left-turn bay going all the way across the bridge down the middle. There is a right-turn bay at that location, so if you are coming from Bozeman, the right-turn bay will start up in this area (referring to slide) and go all the way across the bridge, so you will be able to make the right turn in a separate lane going up to Big Sky. I believe the structure will also have a sidewalk across it for pedestrians. So if you are over in this area and you want to get across and go up the road to Big Sky, there will be a sidewalk there. Before the meeting someone asked how wide the total bridge would be. The roadway is about 58-feet wide and the sidewalk is another five feet. Maybe somebody can look that up to see exactly how wide the bridge is, but I think it is about 63 feet wide.

Question: Regarding the existing structure ... (inaudible) ...

Answer: I believe the sidewalk will be elevated a little bit -- usually about eight inches higher so you are separated from traffic. We won't actually have a natural barrier between the pedestrians and the cars but we do raise the sidewalk. We are open to suggestions on that too. If somebody has suggestions on how to do that, we can look at that.

In the past there were not a lot of cars coming from West Yellowstone going north and making left turns past this location. In the last couple of years, there has been considerably more development in this area, so we are looking to see if the left-turn bay areas should go farther to the north. We had some people tonight asking about that, and we are going to investigate that.

Dudley Creek Road: This is actually where the section where we start reconstructing the road and flattening the slopes – just past Dudley Creek Road (referring to slide). This view is looking south towards Big Sky.

Bridge: I guess I should comment about the bridge. We are going to try and construct the new bridge in phase construction and use the existing bridge and build parts of the new bridge along side it and move traffic over. So we won't actually have to build a detour at the West Fork of the Gallatin.

Jack Smith Bridge: This is the Jack Smith Bridge and we will be flattening the slopes in this area. There are quite a few trees in that area. There will be new guardrail on the ends of the bridges. There are no Gabion walls at this bridge. (Referring to display boards) These display boards show the area through Big Sky, so if we need to discuss it later on, we can do so.

Question: Will there be any widening on that bridge?

Answer: No we are actually leaving that bridge alone. We will put new guardrail on the ends but rather than putting guardrail all along this stretch, we are going to flatten the slope out in that area.

Karst Ranch: The next big area is the Karst Ranch. We have quite a few accidents at this location. Several things we are doing in this area: we are going to put in the left-turn bay, we are also going to do some work on these approaches. They are big wide approaches and people can pull out anywhere. We are going to try and concentrate those and make the approaches smaller and locate them where everybody knows where they are so people are coming on and off the highway at the same location all the time. All the local people get used to it and it will make it quite a bit safer. (Referring to slide) This is the same location but looking the other direction – looking back at the Karst Ranch area where we are putting the left-turn bay in.

Moose Creek Campground: The next location is Moose Creek Campground and I think everybody is familiar with that. At this location we are not close to the river so there won't have to be any retaining walls here. This is just a standard left-turn bay. This is looking back the other location (referring to slide). The left-turn bay should work for both the road going up the hill and also down to the campground.

Swan Creek: This view is looking south (referring to slide). I only have one picture of Swan Creek. The day I was out there the traffic was really heavy. We have to reconstruct this bridge because, even though this area is south of the turn, the left turn will be as you are coming from Bozeman to go into Swan Creek. We have to widen this bridge out because of the shadow for the left-turn bay. At that point we will have to build a detour bridge to get around because the

new centerline will be in approximately the same location as the existing one. I believe we will also have some Gabion walls at that bridge because we are close to the river in this location.

Grape Creek Campground: The next location is Grape Creek Campground. Anybody who attended our first public meeting, we had a very long discussion about this pullout I'm sitting in right there (referring to slide). It was one of the more popular spots. We didn't see any way at that time to fix that pullout because it was so far down in a hole, but when we did the project we actually raised it up about six feet and made a nice big pullout there. It actually turned out really nice. But for this project, we would just be doing the turn bay into the Grape Creek Campground. There is a lot of traffic going to that campground. (Referring to slide) This is just looking back at it from the other direction. This view is looking north again (referring to slide).

Squaw Creek Bridge: This is a view of Squaw Creek Bridge. This is starting a series of work we will be doing. We are putting in turn bays at Squaw Creek and at Castle Rock. All this is kind of one project and all the way through the area we are flattening the slopes. We've had a lot of fatalities in this area plus we have a lot of overturned vehicles just going off the road. Those are on the maps over on that side (referring to graphics). Just north of Squaw Creek we are putting in a Gabion retaining wall. This slide is looking towards Castle Rock (referring to slide). We are flattening the slopes on both sides. We are going to flatten these out. They don't look like they are real steep but we have a lot of overturned cars on both sides of the roadway. So this is approximately where the slope flattening will start.

Spanish Peak: The last location we have is just south of Spanish Peak. If you look at this, it looks pretty flat out in this area but for some reason we have lots and lots of accidents here. Part of the problem and we think now that maybe we need to reconstruct that curve and change the super on it – we are looking at that. (Referring to slide) Looking north towards Spanish Peak, you can see the ditch is quite a bit deeper so you can see how you could roll there. But for some reason there are a lot of accidents on that curve. Hopefully what we do there will fix that. We did a slope flattening job five or six years ago on the next curve starting right in here (referring to slide). We flattened that slope and put a lot of fill on the outside of that curve. We still have a lot of accidents but not as many accidents as before. This is the last site we have.

I guess we can go all the way back to the start of this and open it up for questions. We can talk about general things or go to specific locations. One thing that won't work very well is answering specific questions on exactly how the cut slope or fill slope is going to affect you. We have a number of people here that can look at your exact location after the meeting and give you a pretty good idea of what we are doing. We have plenty of time for that. We are here for as long as you want. We will try and go through you one at a time and do the best we can to answer all your questions.

QUESTION/COMMENT PERIOD

- Q: (Paul Cronin) On the statistics you've kept on rollovers, do these statistics show what caused the cars to leave the highway? Was it ice, rain, excess speed, being forced off the road? In other words, do your statistics show what caused these vehicles to leave the road and roll over?
- A: (Wayne Noem) Most of the single vehicle off-the-road accidents were caused by icy, snowy conditions on the roadway and traveling too fast for the conditions. That is how the officers reported those accidents.
- Com: (John Robinson) In case some of you arrived late, Wayne is an Engineer from the Traffic Safety Department of the Department of Transportation.
- Q: (Roger Cantwell) I had an incident about 5:40 p.m. this evening where a semi-truck tried to pass another semi and ran me completely off the road into the borrow pit near mile marker 41. I swung around and finally caught him down by the park line and got his number. He is from Canada. I realize that you can't do anything about the semis but that is what causes a lot of accidents. I just about put a white cross up for myself. I've put up a lot of them on this road and I don't care to put up any more.
- A: (Jason Giard) Thank you. One thing I would like to bring up. At a lot of the meetings we had questions about the scale house at Four Corners. There is a group of people who are trying to eliminate the scale at Four Corners. We've told them the only way we will eliminate the scale at Four Corners is if we can work a deal out with Idaho to put the scale at Henry's Lake, which would catch the traffic actually coming from all directions. If we can work it out with Idaho, we are looking at putting a scale at Henry's Lake that would stay open a lot more hours. For the time being we are going to continue to have the scale. It is a real safety issue with the trucks that would keep the scale open and keep the trucks inspected.
- Q: (Dick Barton) I live on Beaver Creek Road. I've hassled the highway department for a number of years. First of all I want to thank the department for what it has done. Over the years they have made improvements and they've generally made the road safer. Particularly I think those high markers in the wintertime – the Fire Chief told me that they reduced nighttime accidents immeasurably. He told me that in the first year there were no nighttime accidents. I am concerned that the shoulders aren't wide enough, but I think you have met my concerns on this. It seems to me that with flattening out and moving the ditches away and allowing for four-foot shoulders, that would improve things. But I would raise the questions as to whether five or six-foot shoulders wouldn't

be better because trucks and cars are wider than four feet and if you get in trouble, there is a lot of traffic that has to go around you. Also, I think the area from Ophir School up through the business part of Big Sky will be improved by what you are doing. If I understand correctly, you are having a center lane dedicated to left turns for that entire stretch, is that correct?

A: (Jason Giard) Yes. That stretch will have a left turn bay. If you are familiar with going into Bozeman on Huffein Lane, that has a left turn lane. It is five lanes and this will only be three lanes but it will have the center left turn 14-feet wide all the way through that area. Your other comment about the shoulders – absolutely! The wider your shoulders are, the safer it is. Going through the canyon we are very constrained for right-of-way and the river, and with the Gabion walls, we've just squeezed it out there as far as we can. We do want to try and keep the shoulder as constant as we can through the area so we've kept the four-foot shoulder. That is what we could fit in there without having to get any excessive right-of-way.

Q: (Dick Barton) In that respect I would suggest that the area both ways from Buck's T-4 Lodge which is very narrow now with a lot of traffic friction with left and right turns. It would seem to me to be a good idea for you to consider a wider shoulder in that area. Finally, you haven't spoken at all about speed or speed limits. I argued for 55 mph at several hearings that you were attending. I think with the increased traffic you should give very careful consideration in the Big Sky area to lowering the speed limit to 55 mph throughout.

A: (Jason Giard) Thank you for your comments. After we do this turn bay project, we do intend to come back and check the speeds again to see if it affects it any and to see where we are with the speeds..

Q: (Bill Olson) I'm involved in the trails at Big Sky. I have some trail associated issues that I want to make sure you are covering. The main thing is regarding the bridge across the West Fork just north of Hwy 64; we definitely need a safe pedestrian walkway. I would opt for some railing on the inside because of the right turn. I also feel that the trail along Hwy 191 should be extended to the road that goes up to Dudley Creek because we need to deal with pedestrian traffic in that whole area. The other thing is in support of Dick Barton's comment. All along Hwy 191 there is increasing bicycle traffic and it is scary when you see somebody riding on the white line and invariably cars are coming both ways and it gets very tight. I would opt for eight-foot shoulders wherever you can get them. The more the better because as we look down the road in the future, this type of non-motorized traffic needs to be addressed in this area because it is a high recreational area. As far as the trails go, I have reviewed the Master Plan that we are starting to

propose with Russ Gammon in Bozeman, so he is familiar with that and I will make those available to the Dept. of Transportation is you would like that.

As a user of the road, the turnout bays are very good except for getting people to use them. I would recommend that you have some signs that slower traffic use them. I've been on that road and I've seen some of the contractors pass on blind curves over slower traffic and it just scares the hell out of you. If you could just say "slower traffic use the turnout lanes" – I've heard the argument that it is dangerous because the slower traffic coming out is a danger. But I think that should be considered also.

A: (Jason Giard) That is a big issue that we've talked about. Typically in the summer you have so many of the slower moving vehicles, and like you said they pull off into the turnout, but when they go to get back on the highway they are going even slower and it takes them a long enough time to get up to speed that they again have the same line of traffic that turned out before them. To really make that effective, you need to have turn bays that have acceleration lanes and we just don't have enough room for that. So we are reluctant to sign to tell people to use those. The turnouts along this roadway are basically there for people to stop and to recreate, not necessarily for the slow moving vehicles that pull out. So that is a difficulty and it is a difficult issue to deal with but we don't want to sign for that.

Q: (Jim Jude, Big Horn Center) I have several comments. First, I want to complement you on having this hearing because I think it is great to hear what the users have to say. Looking at the slide you have up there right now and looking at the white line and the yellow lines, and generally you have done a very good job, but keeping those white and yellow is extremely important. There are many times that is the only thing you watch as somebody is coming on and they don't turn their lights down. You just watch the white line and that is what you follow.

Now you are talking about flattening but you have to get at the root of the problem, which is speed. Under the conditions these people are just driving too fast. It is a lot like lawn mower, the minute you let go of the handle it stops. They have this so it is idiot-proof so they won't reach under and cut their fingers off and if they do then they get a lawyer. Well here your flattening is the same thing. It will help, but the idiots will still go fast enough that they will roll over. I think 55 mph is way too fast. I think it should be 35 mph through this whole area from above Ophir School all the way down to Dudley Creek. And enforced, not just signed.

In respect to the bridge – Bill Olson said you should have a trail like the Ophir School Trail that could be used for bicycles also. But it should extend up to at least Dudley Creek so people can get up into the Spanish Peaks. The Metcalf Wilderness Area has a

great trail up there and you should be able to get down to it. While you are doing this project, you could do that and there is ICTEA money that you could easily use for that type of thing. Widening of the bridge should be done and you should have a pedestrian walkway, horse way, snowmobile way, bicycle way that is totally separate and protected from the road. I've had grandchildren almost get killed and I've been ready to jump off but of course they wouldn't jump off the bridge the way it is. But it should be separate. I know you have some problems with snow removal and I've talked to some of the people in Butte about that, but there are innovative ways of heating the roadway or whatever you need to do to take care of that problem.

Now you talked repeatedly about left-turn lanes, but you also need right-turn lanes in many areas. I think we need bi-directional lanes in several areas like the highway has west of Bozeman. But you certainly have to consider right-turn lanes in many areas. I've been tailgated many times and I turn off at a high rate of speed because this big eighteen-wheeler behind me isn't going to slow down.

A: (Jason Giard) I neglected to mention one thing. Rams Horn Meadow just south of Buck's T-4 did pay to have us install a right-turn lane to get in there. So we do have two right-turn lanes on the project – one to go up to Big Sky and one to go into Rams Horn Meadows. They paid us to put that in with this project.

Q: (Craig Swick) I live here in Big Sky and I have several comments. First of all and with all courtesy, I would certainly disagree with you in regards to trying to get traffic to pull off in some of these turnouts. One of the reasons they are reluctant to turn out now is, although you have enlarged them, they are still gravel and some of the nicer places to pull out have potholes that are unbelievable. While you are doing this \$6-to-\$9 million project, I would urge you to find two or maybe three pullouts that you could expand slightly and pave it, especially if there was government property adjacent to it and it was not in the river. Then put signs denoting there is a pullout for slower traffic two miles ahead. If there were two or three of those in this section of highway, I think it would certainly be a benefit particularly in the summer.

The next thing that I wanted to bring up is what is the feasibility – I think one of the best things the highway department did on Hwy 191 several years ago was when they put the third lane outside the mouth of the canyon. It gives traffic that is bottled up an opportunity to pass and they don't have to worry about on-coming traffic. If there were any possibility in this section here where you might have one or two passing lanes instead of a left turn lane, I would certainly consider that aspect. Again, signs to let people know that in so many miles there will be a passing lane for them to use. I think that would help matters.

A couple of other things that does not pertain to this section of highway, I would urge the highway department to check into the spur road that goes up the mountain now – are you familiar with that? We now have a new post office and the new entrance and exit to the post office is in a most hazardous location. Before a fatality occurs there I would urge one of your engineers or planners to go up and look at that entrance to the post office – something needs to be done there. It is pretty critical.

Finally, the last thing I have and this is my personal complaint, I would like to hire your centerline painters. They have more initiative than most of the people I can generally hire. They have painted double yellow lines over the dotted ones. Specifically I'm talking mile marker 63 and mile marker 61. It used to be dotted yellow lines and now it is double yellow line. Again, it just creates people bottled up for miles and miles until they can get around slow moving traffic. I'm sure you have this on tape and I'm sure your engineers will check that out. Anyway, if one of those sign painters needs a job, send him my way.

A: (Jason Giard) Yes, I think we are getting down those comments. For people who haven't been to the other meetings, we did have a third phase to this project. In that phase we were going to install several passing sections through the canyon. There are three or four areas we picked out where it is long enough and there is enough room and it is away from the river, but at several of the meetings before we had a lot of people who were against that idea. They said if you put in passing lanes, the entire stream of traffic is going to speed up and everybody will be going faster. We don't necessarily believe that is true but at this time we haven't decided if we are going to proceed ahead with the third phase of this project. So thank you for your comments.

Q: (Unidentified) Can you tell us where those are?

A: (Jason Giard) You know I don't remember exactly where they were but for example, some of the areas were north of Squaw Creek. There is an area where you are away from the river far enough and it would mean buying right-of-way. It was in a couple of the spots that you talked about where there was passing at one time – milepost 61 and 63. As you are driving through there it is pretty easy to pick out those spots. The spots where you get away from the river where you can actually do that – there are about three or four areas that we think that would work. But at this time we haven't decided if we should do that and maybe we should have a raise of hands here to see what people think. Do you think we ought to work on putting in some passing lane sections in? Who is in favor of adding some passing lanes on that? OK, everybody else is in favor of not adding the passing lanes? There were quite a few who didn't raise their hands, but there is probably more this time that would vote for it. I know people get pretty heated up over this issue.

The people who live here usually don't want the passing lanes and the people who are commuting want the passing lanes and you can see positives both ways.

Q: (Unidentified) Well I think people will use the turning bays to pass.

A: (Jason Giard) It is not likely that they will use those as passing lanes. We will have those marked as "no passing" and they will definitely stick out.

Q: (Unidentified) ... inaudible...

A: (Jason Giard) I agree they do that but I really think they will not use those as passing lanes. That is one thing we will have to watch and see.

Q: (Unidentified) If it is signed, you can see why they wouldn't use it as a passing lane, but if there is an open spot, they are going to pass.

A: (Jason Giard) The turn bays are not necessarily on straight stretches, a lot of them are on corners. So we are widening the road out to put them in. So they won't necessarily look like spots to pass, but that could be a concern. That is a good point.

A: (John Robinson) Regarding the passing lanes, all of you might not be decided about how you feel, so please take home a comment form and think about it for 30 days or so, drive the road and think it about it some more, and then put your comment on the passing lanes on that form and send it in.

A: (Jason Giard) Comments don't have to be on the comment form either. You could write it down on a piece of paper and mail it in too.

Q: (Caroline Henley) I'm a Big Sky resident. I too want to speak out in favor of increased signage on Hwy 191. I concur with Craig Swick that addressing the slower moving traffic may be an exercise in futility in that it is basically relative to how fast the person in the front is driving. So what I would like to see is the signage quantified – why the driver must pull over. I believe state law dictates that a driver with six or more vehicles behind him should pull over. So maybe quantifying the signage in numeric terms would assuage a lot of anxiety that a lot of first time drivers of the canyon are feeling and hence these are typically the drivers that are moving a little more slowly.

A: (Jason Giard) That is true, state law says five vehicles. We do not want to encourage them to do that. The answer to solving that problem is to put in some passing lanes. That gets some of the cues. So that is a good reason to add some passing lane sections in the area because if you have slow moving vehicles, then get in the right hand lane and the

other vehicles can pass. That would also relieve some of the congestion at the head of the canyon. As all of you know when everybody clears the canyon, it is like a speed zone getting out of there and that passing lane section is way too short. We are actually going to initiate an environmental document to study what we should do from the head of the canyon all the way to Four Corners. It actually looks highly likely that we need to put in five lanes for that whole length. So in the next year or so we are going to start working on a project to look at that section of the highway. It just continues to have more and more subdivisions and there is a lot of traffic. At least up in that area we have room to actually build more road.

Q: (Jerry Wortman) In reference to the bridge over the West Gallatin at the entrance of Big Sky, do you anticipate all that construction within the confines of the present right-of-way which I believe is 140 feet.

A: (Jason Giard) We didn't actually mention that we have to buy right-of-way for a lot of this project. I believe that right at the bridge we probably can because the bridge is only 63 feet wide, but once you get off the end of the bridge, there is a fair chance we will have to buy the right-of-way – maybe not a lot. But all the way through this project we will have to buy some right-of-way. We will get that pinned down in the next six months and then start contacting landowners and show them exactly how much right-of-way we will need to buy. We are going to try and minimize the right-of-way. We are not going to buy any more than we have to. One thing, when we contact you and show you the plans, if you have suggestion as to how we can change the slope a little bit or maybe you don't need this much. Maybe you don't care and you want us to buy the right-of-way and move it out there. But please be sure to let us know when you get contacted – just because we have something showing on the plans doesn't mean that we can't change it. It is not necessarily final even when we come out to see you.

Q: (Linda Wortman) I am a resident of Big Sky. Where the spur road intersects with Hwy 191, will we ever see a stop-and-go light?

A: (Jason Giard) That is a good question. We have been working with a number of the developers on the Big Sky Road and that is one of the things that is out there in the future. To install signals you have to meet specific warrants and usually that is the volume of traffic. When the volume of traffic on Hwy 64 gets high enough, we will have to install a signal and the department would install that signal.

Q: (Unidentified woman) We were a little late and you may have already answered this question, but when was the last study done on traffic patterns on Hwy 191 – who is speeding, who is not? Has that been a recent study?

- A: (Jason Giard) Yes. Wayne can tell you when we put the 60-mph speed limit in. It wasn't very long ago.
- A: (Wayne Neom) It has only been in the last two years that we installed the 60-mph speed limit. The study showed the traffic was driving about 62 mph north of Big Sky and 67 mph south of Big Sky. But we made the decision that we would make the whole thing the same. So probably we have a fair amount of people that are exceeding the speed limit south of Big Sky. But as everybody knows, the road is a lot safer south. We made 60 mph through the whole section within the last two years.
- Q: (Unidentified woman) What is the enforcement?
- A: (Jason Giard) Enforcement is done by the sheriff and the Highway Patrol. All we can do is request that they enforce it. That is a great tool. Enforcement is one of the best things you can do. One of the things you can do is call your Legislator and ask him for more Highway Patrolmen. That is really the only way you are going to get more enforcement. I don't know if we have anybody from the Highway Patrol here but they are generally under-funded and they don't have a lot of officers. It is a hard thing to do and it is a great idea – it helps with the trucks and with illegal passing. It is a great thing to do, but I don't have an answer on how we get more enforcement though.
- Q: (Unidentified man) Fifteen years ago approximately, I served on a committee with some others here in this room tonight, that looked at the use of semi's on this two-lane road coming through West Yellowstone and coming through the Park. At that time it was determined that federal regulations prohibited the use of the Park for commercial trucks to go through. Back then the problem sort of went away when the State informed our committee that they would enforce restrictions on the use of toxic materials going up and down this highway. I think that promise by the State lasted about one year. Since then we know that we've got toxic materials going up and down this highway all the time. My question is two-fold: (1) in regard to the monies being spent now, has the State made any type of determination as to how much of the problem that is perceived is caused by the use of these semi's going up and down this two-lane highway; and (2) what is the policy of the present administration in regard to the semi's going through the Park and is there any coordination between the State and the federal government as to why these commercial semi's going from San Diego to Chicago are using Yellowstone National Park as a freeway?
- A: (Jason Giard) To answer your question on the trucks, that is why we have the scale at Four Corners. When it is open, that scale does everything they can to enforce the trucks – they check the trucks, they check for hazardous cargo. When they are not open, nobody actually is checking but they are open quite a bit and we do enforce that as best we can.

Now if it was open 24-hours a day, it would do even a better job. At this time, we don't have enough personnel to keep that scale open 24-hours a day.

Wayne probably knows this better than me but to answer your question about the accidents with the trucks, I believe that accidents with trucks on this section are actually lower than the statewide average.

Q: (Unidentified man) ... (Inaudible) ... regarding accidents with trucks. That is not true. Most accidents over there ... (inaudible) ... I have been forced off the road there times by semi's. My wife has been pushed off the road twice. My grandchildren have been forced off this road by semis.

A: (Jason Giard) We don't actually argue with that at all. We know there are a lot of near misses on this road. Everybody knows how unsafe that road is and that is one thing we are trying to address.

Q: (Unidentified man) Do something about it!

A: (Jason Giard) We are not going to discuss that any further because it is a federal highway. That is something I can't do anything about. It is not something that is eligible for us to do. So the semis are going to keep going there. We have a project that we are certain is going to help the safety on this road and that is what we are here to discuss today.

Q: (Jim Holstein) I live here in Big Sky too. Personally, I think if we are going to do this, we have to do this right the first time. We are seeing exploding growth. I've skied here since the mid-70's, grew up in Livingston and I would really appreciate it if Roger didn't put up another white cross for another one of our friends.

Now, I agree that we definitely need to make wider shoulders – six to eight feet in here. When you look at some of the other highways in the area, i.e., Hwy 20 South of West Yellowstone through Island Park where they have three lanes and six-to-eight foot shoulders, they also have a 45-mph speed limit. You know 55 mph is a little too fast in here, I think. We've got cars turning from the Exxon and everywhere in here and 55 mph is a little too high because people will always go five-to-ten miles over the speed limit, so you end up with 65 mph in there. Second of all, look at the east entrance highway outside of Yellowstone Park from Pahaska to Cody. They just put in six-to-eight foot shoulders and passing lanes. That highway is flowing so smooth right now it is unreal. And it is probably the best looking highway in a tight canyon that we have in the area.

But as far as the semi's go, I guide in the Park and I own a tour company in the Park. The Park Service has been pretty iffy about banning semis and it is really up to them. But one

thing we could do is to make it a "pain in the butt" for them. If we all got together, I think the Park would lower the speed limit in Yellowstone to 45 mph. If that were done, the trucks would probably think it was too much of a pain to come through here and would probably go around on Hwy 287 in Ennis where it is nice and wide. Another real crucial area where we are having a really big problem is between 35-mph Bridge and two miles north to Beckman Flats especially in the summer time. We've got rafting buses, rock climbers, kayakers crossing the road, and Montana is really the only western state without a good tunnel. I would almost like to see a good tunnel go from before the bridge two miles north and make the old highway into a spur road – a forest service road where you can get off the road, give the river a break, let these guys throw ropes in the river if they have to save someone. That is a huge congestion area in the summertime now and it is a mess.

Q: (Jason Giard) You mean you want a tunnel for the highway to go through?

A: (Jim Holstein) Yes.

Q: (Jim Holstein) Have you been through there in the summer? It is pretty slow. You come down to 25 mph a lot and it is pretty unsafe. But the passing lanes do work. Looking at what they have done east of Pahaska to Cody, it really didn't make people go a lot faster, you just got around the ones who were going 35 mph and were able to go the speed limit again.

Q: (Elana Simpson) I commute the canyon from Portal Creek into Big Sky everyday to go to work and there are a few problems that I see. First of all it is people who are commuting too fast and people going too slow. Of course, the semis again are a problem. What I never see and what I haven't seen almost without exception is any law enforcement up and down the canyon, in Big Sky or on the spur road. It doesn't matter if there is no law enforcement on the road. I understand this is not exactly the forum for that but it would definitely go a long way in reducing accidents if there was some law enforcement on the road. Also the gentlemen mentioned the entrance into the Big Sky Post Office and I would have to agree that is potentially a big problem area.

A: (Jason Giard) We will look at that Post Office area.

Q: (Kevin Kelleher) I know Jason Giard as publisher of the Lone Peak Lookout for eighteen years. I did a fatal accident study with data provided by MDT Planning Division Five 2000. For all you windbags that think this is a speed issue who speed anyway, I want you to listen to this. The speed limit has been 55-mph since 1974 when the Opek Oil Embargo necessitated a federal regulation of the speed limit. There were a total of 18 fatal accidents from 1990-1995. Four of the fatalities were nighttime driving hours.

Fourteen of the fatalities were daytime driving hours. Four were winter driving season. Fourteen were in the summer. Four of the fatal accidents were north of milepost 70 in the Gallatin Canyon, so we have ten in the canyon. Fourteen of the fatal accidents were at milepost 32 to milepost 70, Gallatin Canyon. The worst year was 1992. I'm sorry that Fred Wesenfelder left because I helped load the body bags there that day. June 24, 1992 – there were seven fatal accidents. Five daytime and two nighttime. 1995-2000 basic rule was instituted, 70-mph speed limit plus reasonable and prudent – how you should drive this highway. There were a total of eleven fatal accidents compared to eighteen fatal accidents under the 55-mph speed limit. Eight fatalities were nighttime driving hours. Three fatalities were daytime driving hours as compared to fourteen under the 55-mph speed limit. Ten occurred in the winter driving season and one occurred in the summer driving season. There were three fatal accidents north of milepost 70 in Gallatin Canyon, and eight fatal accidents between milepost 32 and milepost 70. Worst year: 1998. There were five fatal accidents. Three daytime and two nighttime as compared with 1992, seven fatal accidents, five daytime and two nighttime. Fatal accidents by year: U.S. 191, Four Corners to West Yellowstone National Park. 1990: three, 1991: three, 1992: seven, 1993: three, 1994: two, 1995: 0 (the first year of basic rule), 1996: three, 1997: one, 1998: five, and 1999: two.

I'm also the senior member of the Gallatin Canyon Big Sky Planning and Zoning Advisory Committee. I sent a letter to the Gallatin County Commission basically saying I was not in favor of the proposed 55-mph speed limit on U.S. 191 between Yellowstone Park and Four Corners. I am in favor of a 55-mph limit in community areas including Ophir School, Big Sky, and Gallatin Gateway. I'm also in favor of a 65-mph speed day and night speed limit for all vehicles. It is necessary to post slow moving vehicle signs on Hwy 191 to alert drivers delaying traffic to follow Montana law and use turnouts.

When I compiled these statistics and I have all the planning data here from MDT for these years, it was scoffed at. They said that can't really be true because we know that if we drive slower, things will be better. But these nice women sitting right in front of me, I can guarantee will hop in their Land Rovers and fast cars and they won't be doing 55 mph. I see it every day.

The locals can be and are the worst abusers of our highway. I can say this because I live on U.S. Hwy 191 and I work on U.S. Hwy 191 and I see it. It is not a speed limit issue. Here is the black and white proof if you want to take a look at it. Thank you.

Q: (Bill Lerch) I have lived at mile marker 64 at Beckman Flats on Hwy 191 for eleven years. I do have just a few comments. A lot of good points have been brought up here this evening. For those of you who drive the canyon a lot, as you know going to Bozeman Beckman Flats is the first place you can legally pass once you get out of the

canyon since they changed the passing lanes that used to be up-canyon prior to that. That is one of the heaviest residential areas in the canyon. I counted 75 residents on a little tour I did the other day. If you include the Forest Services and leases, that number increases quite a bit. That is the area that has been encouraged as a passing lane up until now – the heaviest residential area in the canyon. We all talked about near misses and hits and I have many I can tell you about. I've seen many accidents, most recently was this Saturday. I agree these shoulders will help but perhaps they could be a little wider so that a car can pull off to make the turn or if a car is making a left turn, cars can go around them. I came in late so I don't know if you are planning a center turn lane there. I would discourage a center turn lane in a residential area like that because it will be used as a passing lane. You do have a lot of areas where you can put passing lanes that are federal lands or big open spaces. One is down by the Castle Rock Inn where the highway could actually be straightened and then go across the field with a passing lane. There are a few others in the canyon.

We talked about the truck issue – that has always been a heated issue as long as I've lived in the area. I do not foresee the trucks not going through this canyon but I do see a few things I think would limit that as well as increase safety in the canyon.

Many people mentioned the speed limit issue. I agree there should be a speed limit through the Big Sky area, through the Karst area basically Castle Rock Inn to 35 mph Bridge at least in the summertime. It should be not 55 mph. I'm thinking more like 45 mph and it needs to be enforced through there. Those are the highest residential areas – the Beckman Flats area has three Forest Service accesses, two river accesses, and the most residences in the canyon. I do think that once the Norris road gets finished all the way over that many trucks will choose to go that route, but I know we are years down the road from that. That windy road has always been a problem and I know you are doing a great job of straightening that over there. I think length restrictions on the trucks going through here would help. Kevin probably knows more from his statistics but a lot of the accidents I've seen involving semis are all hauling pup trailers down through here. I think a length restriction would be a big help on that also.

Jim brought up a point about a tunnel there. I've thought the same thing. You see them in Colorado. A tunnel right at 35-mph Bridge going north where it curves to the left where the last flashing light is – tunnel right through there and get on to the old highway and cross where the old bridge was. Then the current bridge could be used for residents and recreation, etc. All the things you are putting up here are great and it is just a matter of time. We need to look at the big problem and not just try to put band aids out there right now. There are places where the road could be straightened and passing lanes could be put in. Not in residential areas though. Safety issues – a tunnel, wider shoulders in certain areas, and enforce speed limits through several areas. Thank you

Q: (Ruby Delzer) I live in Big Sky. Our business is right as you turn off Hwy 191 onto the spur road at Hwy 64. Right there all of the semis and big trucks and campers park on that right hand side of the road especially during the summer. There have been times when six or seven trucks are parked on that right hand side. Trying to come out of our place of business, I almost got hit because you can't see around them. Could you put "no parking" signs up there or something?

A: (Jason Giard) Is this the location you are talking about (referring to graphic) or are you further down over here?

Q: (Ruby Delzer) Where you turn to come into Big Sky.

A: (Jason Giard) So it is right off the picture on the other side (referring to graphic)? That is not a bad idea. We can look to see if that is possible. You want to have as clear a sight distance there as you can.

Q: (Ruby Delzer) I don't know if you can even do anything about this but in the canyon if you have car trouble or anything, how do you contact somebody? Could they put a couple of telephones in there somewhere for emergencies?

A: (Jason Giard) We can look into that. I know cell phones don't work very well once you leave Big Sky. We can look at some call boxes. We don't have a lot of those in Montana. Other states have them – California has a lot of them. We can look in to that.

Q: (Unidentified woman) I have a comment regarding the crosses. We have been coming to Big Sky since in 1973 and I also work for a major airline carrier who flies passengers in here all year. The crosses on Hwy 191 may not be something that all of the residents like to look at but I can share this with you for sure, it makes a lasting impression and it gets the attention of a lot of tourists that may not know this highway and drive it as appropriately as we would like to see them do. But the crosses make a positive, lasting impression and makes people more aware of how they should drive so I'm all for the crosses remaining.

Q: (Mr. Martin?) I would like to give a little bit of history about trucking because that issue came up. When Mr. Cronin was talking about the hearings that were conducted quite some time ago, the trucking industry representatives said that mileage is their only standard. Even if you slow trucks down, they will still come this way. Governor Racicot a few years ago mentioned that the reason the interstates are located where they are is the politicians in Butte wanted to have the only city that had two interstate highways that crossed. The fact is that Hwy 191, as I understand it, represents the shortest distance

between Minneapolis and Los Angeles. That is why a lot of the trucks are on Hwy 191. You will not get those trucks off by passing laws or speed limits or anything like that. The best way to get them off is to relocate the interstate highway so it doesn't intersect at Butte where it crosses the continental divide three times instead of just once. There is a water level route that would be a little longer than Hwy 191 between Minneapolis and Los Angeles but if it were made into an interstate quality road – that would be following the Jefferson River and the Beaverhead and the way Lewis and Clark went. That would be only way the trucking industry is going to get off of Hwy 191.

- A: (Jason Giard) A couple of comments on that – we just completed two projects in that area. That was probably the worst road we had in the Butte District at Silver Star. We now have a brand new road there with nice eight-foot shoulders. It is a very nice road. Then tying onto that from the Erinrodge Bridge into Twin Bridges, they just got that paved in the last few days. It is brand new road. We are already getting complaints from people about the trucks and how fast they are speeding through that area. But it is a very nice road so I do expect more semis will go that way. The other thing is if you take the road from Four Corners and go through Big Sky into Henry's Lake or if you take that same road and go through Ennis, it is within one or two miles of being exactly the same distance. I'm not exactly sure why as many of the trucks go down Hwy 191. Most of the roads are getting fixed. We also have another project coming up next summer at Madison River East that will tie into the Four Corners West project – the second nine-mile piece of that road. We are going to reconstruct it next year. Of course we hear the same thing over there. We heard it when we finished Cameron from Ennis. They said, now that you've finished this road we see more trucks coming this way. We did a check and in reality there are more trucks on every road. So you have some good comments and we are really working on improving the road at Silver Star so I'm certain there will be more trucks going that way.
- Q: (Cindy Olson) Gallatin Gateway. If you could be absolutely sure that the speed limit would be enforced — 45 mph, 55 mph or some reasonable speed, would you be proposing these changes today?
- A: (Jason Giard) Yes. We would be proposing these changes because left turn bays always, always improve the safety. Because you have so many people that have so many distractions in their cars whether it is cell phones or they are eating or their kids, or the radio, there are a lot of distractions. They look down and if a car is stopped in the middle of the road in front of them – if you can get those cars out of the flow of traffic you really eliminate a lot of accidents. Those are always serious accident. Most of you know about Castle Rock where the semi ran into the back of a vehicle and killed four people. They are serious accidents. Even if this were a 20-mph road, we would still be proposing these turn bays because they are a real safety improvement. The statistics on how many

fatalities there were, when we finish this project I believe that number will go down considerably. So we are going to continue on with this project.

We've heard a lot about the speed limits and the enforcement. I totally agree that enforcement is great. So talk to whoever you can and ask for more enforcement. I can ask but it doesn't do me a whole lot of good unless many of you ask. It might help. We have a new legislative session coming up in January and we all know the state is strapped for money, but it would seem to me a worthwhile expenditure of funds to hire more Highway Patrolmen.

Q: (Unidentified) What is the timeline for this project?

A: (Jason Giard) The timeline for this project is starting to buy right-of-way in the spring of 2004 and construction in the spring of 2005. We think we can finish all of the turn bays in one summer. That summer is going to be very busy with a lot of work going on but we would be attempting to do all of the turn bays in one summer. The bridge will take a while but we think we can still get it done in one summer.

A: (Unidentified) Question about the bridge.

A: (Jason Giard) We are going to reconstruct that bridge in the summer of 2005.

Q: (Erin Hayes) I live and work in Big Sky. I just want to know if the gentlemen from the Transportation and Safety Board thinks 55 mph from Dudley Creek to Ophir is safe?

A: (Wayne Noem) That is really more than one person's decision, wouldn't you say Jason?

A: (Jason Giard) That decision is made by the Transportation Commission. We have engineers that study those issues. We make a recommendation. The Transportation Commission sets that speed limit and it is not necessarily set by engineering facts. A lot of times they are set by political agendas and sometimes it is a compromise. It is a difficult issue. Unless you have enforcement, speed limits don't mean a whole lot anyway.

Q: (Erin Hayes) What is your recommendation?

A: (Jason Giard) The recommendation for Big Sky that went to the Commission was 55 mph. One of the big things the Commission went on when they made their decisions to make it 60 mph on the highway and 55 mph at Big Sky -- we had several public meetings with the Gallatin County Commissioners on speed limits through the canyon. The Gallatin County Commissioners actually recommended 65 mph through the canyon and

they agreed with 55 mph through Big Sky. I don't know if that is right or if it would be safer if it were slower, it might be. To make it safer or change the speed limit, you have to get people to drive that speed limit. One of the big things the Transportation Commission looked at was the recommendation from the County Commissioners after they had their public meetings. But they still made the decision to follow our recommendation and set it at 60 mph.

Q: (Ruby Delzer) Today we went to Helena through Townsend and I noticed they now have a flashing red light at the main road and you have to come to a complete stop. Why couldn't we do that at Big Sky?

A: (Jason Giard) You can only do that if it is warranted. As I said before, at some point when the traffic on Hwy 64 gets high enough, a signal will be warranted at that location. In Townsend, that is the step right before you put in a red, yellow, and green light. The first step is to put in a four-way stop with a flashing light. That could be the next thing that comes to Big Sky, but you have to have enough traffic on Hwy 64 to warrant that. It gets higher every year and at some point we will probably have to do that. We might go directly to a regular signal at that location. That may be a distinct possibility in the future. We see a whole bunch of subdivisions at Big Sky – we've got the Big Sky Town Center, and all of the projections show a lot more traffic on Hwy 64. Even though you have a signal light, it might not necessarily make the road any safer. You have a lot more accidents at signals but they are almost all minor rear-end accidents. We are going to consider that and when it meets the requirement we will probably put a signal in there.

Q: (Unidentified man) I just wanted to touch on a couple of other things. 55 mph through here is too fast. Go to Island Park on Hwy 20, they have it down to 45 mph for a gas station. Here we have 55 mph through here and 60 mph by Box. I wanted to touch on another thing. The Park Service along with the Montana Highway Patrol and the Wyoming Highway Patrol this year for the first year conducted a DOT inspection on the trucks in Yellowstone on Hwy 191. Here are some of the statistics from that: 39% of the trucks did not pass inspection, one of which had brake lines that were put together with radiator hose. 40% of the trucks that didn't pass were parked by either a driver violation or a truck violation. I'm wondering and I know this has come up before, but what about keeping the weight station open 24 hours a day and doing a few more random DOT inspections?

A: (Jason Giard) That is something we can pass on to the MCS people. They do have a roving scale they can move around. We've asked about 24 hours a number of times. They don't have funding to have the personnel to man those 24 hours per day. It might not be a bad idea to have some of those random checks on the trucks and we can ask about that.

Q: (Unidentified man) Just to compare, the Park did the same DOT inspection at Old Faithful on buses and only 15% of those failed. So there is a huge difference between 40% of the trucks that are safe compared to 15% of the buses that are unsafe. We were pulled over at Hwy 191 and at Old Faithful for two inspections and passed both of them. Like I say, a little more enforcement of the DOT laws around here wouldn't hurt. I really don't like trucks coming through here with brake lines patches together with a radiator hose.

A: (Jason Giard) I think we are getting down to a lot of comments that are the same. We want to make sure we have time to talk to people individually about their particular properties, so I think with that we should wind this up. At the last public meeting we did talk a little bit about the turn bays north of this – we have a project coming up that is separate from this that puts turn bays at Little Bear Road and Wilson Butte Road north of the canyon. Early next spring we will start buying the right-of-way for that project and we will install those two turn bays in the summer of 2004. So it is one year ahead of this project. We are working hard on that project trying to get it done.

CLOSING:

Thank you for coming and we are here to answer questions.

FOR IMMEDIATE RELEASE

July 9, 1999

For further information, contact:

Jason Giard, (406) 494-9625 or

Joan Scott, (406) 444-7307

The Montana Department of Transportation is soliciting questions and comments regarding a planned safety project on a section of US 191 in Gallatin County. The project would begin 16 miles (25.7 km) south of Four Corners and continue 39 miles (63 km) south.

The project includes 10 turn bays at various locations, guardrail upgrades, slope flattening and 2 new bridges over the Gallatin River and Swan Creek. The purpose of this project is improved safety.

The department anticipates work could begin in the fall of 2001 depending on completion of a design and availability of funds. Some new right of way will be required.

For more information or to comment on this proposal please contact Jason Giard, District Administrator, PO Box 3068, Butte MT 59702-3068, phone (406) 494-9625. For the hearing impaired, the TTY number is (406) 444-7696.

-----END-----

CN#2544(A544)
STPHS 50-1(14)8
Safety Improvement – Gallatin Canyon



Hear.

The Montana Department of Transportation (MDT) invites you to a public meeting to discuss safety improvements and the replacement of two bridges on US Highway 191 in Gallatin County, Montana.

The meeting will be held at 7 pm, Wednesday, August 28, 2002, at Buck's T-4 Lodge, US Highway 191, in Big Sky, Montana.

This project is the second phase of safety projects along the corridor, beginning at milepost 32, and ending at milepost 70. The first phase was completed in 1999, and included new guardrail, new signage, and bridge rail upgrades. That project began at milepost 8 and ended at milepost 11.

This second phase includes upgrading guardrail in various locations and adding turn lanes at Buffalo Horn Ranch, Red Cliff Campground, Karst Ranch, Moose Creek Campground, Swan Creek Campground, Greek Creek Campground, Squaw Creek access and Castle Rock Inn. The department is also examining turn lanes in the Big Sky Area.

Current plans also include flattening slopes along one or both sides of the road at six locations to enhance safety. The existing bridge at Swan Creek (mp 57.3) and the bridge at the West Fork of the Gallatin River (mp 48) will also be replaced with new bridges. Some new right-of-way will be required at various locations throughout the project.

Be Heard.

Your comments and concerns are a very important part of the process. We invite you to attend to voice suggestions and present pertinent information about the project. To arrange special accommodations for disabilities please call MDT at (406) 444-7696, or TTY (800) 335-7592.

Wednesday, August 28, 2002

7pm

**Buck's T-4 Lodge
US Highway 191
Big Sky, Montana**

*Mailed Advertisements
July 30, 2002
Press Release
July 30, 2002
John R*



Montana Department
of Transportation

PO Box 201001
Helena, MT 59620-1001

Judy Martz, Governor

FOR IMMEDIATE RELEASE

July 29, 2002

For further information, contact:

Jason Giard, (406) 494-9600 or
Lesly Tribelhorn, (406) 494-9612
John Ulberg, (406) 444-6227
John Robinson, (406) 444-9415

Safety Improvements and Bridge Replacements Planned for US 191 in Gallatin Canyon

The Montana Department of Transportation is conducting a public meeting to discuss safety improvements and the replacement of two bridges on US Highway 191 in Gallatin County, Montana.

The meeting will be held at 7 pm, Wednesday, August 28, 2002, at Buck's T-4 Lodge, US Highway 191, in Big Sky, Montana.

This project is the second phase of safety projects along the corridor, beginning at milepost 32, and ending at milepost 70. The first phase was completed in 1999, and included new guardrail, new signage, and bridge rail upgrades. That project began at milepost 8 and ended at milepost 11.

This second phase includes upgrading guardrail in various locations and adding turn lanes at Buffalo Horn Ranch, Red Cliff Campground, Karst Ranch, Moose Creek Campground, Swan Creek Campground, Greek Creek Campground, Squaw Creek access and Castle Rock Inn. The department is also examining turn lanes in the Big Sky Area.

Current plans also include flattening slopes along one or both sides of the road at six locations to enhance safety. The existing bridge at Swan Creek (mp 57.3) and the bridge at the West Fork of the Gallatin River (mp 48) will also be replaced with new bridges. Some new right-of-way will be required at various locations throughout the project.

For more information or to comment on this project please contact Jason Giard, District Administrator, PO Box 3068, Butte, MT 59702-3068, phone (406) 494-9600 or (800) 261-6909. To make special accommodations for persons with disabilities, please call (406) 444-7696 or TTY (800) 335-7592.

-----End-----

J. Marshall

RECEIVED

JUN 28 1999

ENVIRONMENTAL

1. Buffalo Horn Ranch – No comments
2. Red Cliff Campground – No comments
3. MP 43.1 to 43.3 – Asked if the shoulders would be wider and questions on seeding and storm water run-off permits.
4. MP 43.4 to 44.1 – No comments
5. MP 45 to 48.4 – They want a lower speed limit through Ophir school area. Are the left turn bays going to be signed, and can “NO Passing Zone” be painted on the roadway? There may need to be guardrail installed where the new bike path is close to the road. Asked if there could be a sidewalk installed on the new bridge that crosses the West Gallatin river?
6. MP 49.6 – No comments
7. Karst Ranch – Asked if the approaches could be consolidated?
8. Moose Creek – Need advanced left turn signs.
9. Swan Creek – Need to improve right turn radius.
10. Greek Creek – There was some concern about removing any tree because it is close to the campground.
11. 35 MPH Bridge – Would like to see the pull-off area just south of the bridge improved with this project.
12. Squaw Creek – No comments
13. No Comments on the rest of the areas in the canyon.
14. Little Bear Road – Had a lot of discussion on the approach and became very emotional. They asked if the approach could be changed back to the original approach? Felt there was a need for acceleration lanes. Asked how much right-of-

Date	Recd	Preconst
		60 Precast Engr
		80 Asst Eng
		89 Civils Mgr
		81 Safety Insp
		82 Roads & Trn
		87 Environm ent
		88 Hydrologics
		85 Army Engineers
		86 Health Eng
		83 Construction Admin.

way the project would take. The people from the Broken Heart Ranch were very outspoken.

At the end of the meeting there were also some added questions and comments:

1. Can the Department install signs that tell motorists to pull over when they have several vehicles following?
2. They feel with the widening of the roadway it will increase speeds and encourage trucks to use US 191.
3. Had a comment on the long traffic delays with the last project.
4. Concerned with the wide loads being allowed in the canyon and suggested the Four Corner scale be open 24 hours.

5	4	BUTTE DISTRICT	2
		DISTRICT ENGINEER	
		DIST. CONST. SUPVR	
		FIELD PROJ. MGRS	
		ENGR. OFFICER	
		ENGR. SERV. SUPVR	
		R/W	
		DESIGN	
		LAB	
		TRAFFIC	
		UTILITIES	
		CENT. SERV. SUPVR	
		PERSONNEL SPEC.	
		ACCOUNTING SPEC.	
		CH. FLD. MAINT. BT. BO.	
		MAINT. SUPTS. BT. BO.	
		SHOP SUPTS. BT. BO.	
		FLD. SEC. SUPVR. BT. BO.	
		MOTOR CARRIER SRVS	
		DISTRICT FILE	
		J.D.H. D4366	

✓ CARL PAUL

✓ DAVE DREBER

✓ JOHN ULBERG

RECEIVED

APR 09 1999

ENVIRONMENTAL

Montana Department of Transportation
Helena, Montana 59620-1001

MASTER FILE
COPY

Memorandum

To: Dave Dreher
Information Specialist
Public Affairs Bureau

From: John C. Ulberg, P.E. *JCU*
Butte Project Supervisor
Road Design Section

Date: April 9, 1999

Subject: STPHS 50-1(14)8
Safety Improvements-Gallatin Canyon
Control No. A544

Attached is the news release for the referenced project. Please distribute these to the appropriate newspapers, radio and television stations. Please contact Dennis Unsworth regarding this news release. He has been in direct contact with the Bozeman Chronicle. We would like to have a copy of the public releases for our files.

JCU:KJG:kjg:2544newscov2.wpd

Attachments

cc:	J. A. Walther,	(w/attach.)
	C. S. Peil,	"
	✓ Joel Marshik,	"
	R. E. Williams,	"
	J. R. Giard,	"
	J. C. Ulberg,	"
	Dennis Unsworth,	"
	Preconstruction File,	"

For Immediate Release
April 9, 1999

For information call:
Jason Giard (406) 494-9625

SAFETY ENHANCEMENT PROJECT PLANNED

The Montana Department of Transportation plans to provide safety enhancements to 63 kilometers (39 miles) of NH Route 50 (US 191) in Gallatin County. The project is from reference point 31 to reference point 70.

The intent of this project is to include some turn bays, guardrail improvements, slope flattening, and two new structures at reference points $47.0 \pm$ and $57.0 \pm$. These structures traverse the Gallatin River and Swan Creek.

The project will require complex design, some right-of-way purchase, and utility involvement.

The project has a tentative ready date of October 2001 depending on completion of the design and the availability of funding.

A public meeting for this project will be scheduled in the future.

For more information or to comment on the proposal, contact Jason Giard, P.O. Box 3068, Butte, MT 59702; phone (406) 494-9625 or Dave Dreher, 2701 Prospect Ave, Helena, MT 59601; phone (406) 444-6245.

For the hearing impaired, the TDD number is (406) 444-7696.

Project STPHS 50-1(14)8
Safety Improvement-Gallatin Canyon
Control No. 2544

JCU:KJG:kjg:2544news3.wpd

Appendix D – Section 4(f) Assessment

Summary of Potential 4(f) Resources by Improvement Location

Potential 4(f) Site	Resource Type	Officials with Jurisdiction	Proposed MDT Improvement	Adjacent Property Owners	Potential 4(f) Impact/Use	Comment
Buffalo Horn Ranch Improvement Area (RP 36.0) Construction Limits: 413 + 60.00 - 420 + 71.13 T7S R4E - SW ¼ of Section 33 <i>Lone Indian Peak Quad</i>						
Buffalo Horn Trailhead	Recreation Area	USFS	Southbound left turn lane Widen shoulders on both sides	320 Ranch Inc.	No	The Buffalo Horn Trailhead is located approximately ½ mile west of US 191 and therefore the site would not be impacted. The USFS is moving the permanent access to the site approximately ½ mile north along US 191.
Red Cliff Campground Improvement Area (RP 41.4) Construction Limits: 325 + 96.2 - 331 + 19 T7S R4E - SW ¼ of Section 33 <i>Lone Indian Peak Quad</i>						
Elk Horn Trailhead	Recreation Area	USFS	Southbound left turn lane Widen shoulders on both sides	Gallatin National Forest	No	The Elk Horn Trailhead is located approximately 1000 ft from the preliminary construction limits on the opposite side (east side) of the Gallatin River and therefore the site would not be impacted. Access to the site would not be permanently impacted.

Summary of Potential 4(f) Resources by Improvement Location (continued)

Potential 4(f) Site	Resource Type	Officials with Jurisdiction	Proposed MDT Improvement	Adjacent Property Owners	Potential 4(f) Impact/ Use	Comment
Red Cliff Campground Improvement Area (RP-41.4) (continued)						
Red Cliff Campground and Picnic Area	Recreation Area	USFS	Southbound left turn lane Widen shoulders on both sides	Gallatin National Forest	No	No right-of-way would be required for the proposed improvement as per April 12, 2004 email from Zach Cunningham, Butte District ROW. Tree removal would be required along the east side of US 191 in this area to accommodate widening for the turn lane and shoulders. This will have no significant impacts to the campgrounds, which are on the opposite side of the Gallatin River and are buffered from US 191 by trees along the east bank of the river. Trees would also be removed adjacent to the Red Cliff Picnic Area, but the picnic area is within MDT right-of-way and therefore would not constitute a 4(f) use.
Section House Improvement Area (RP-43.1-43.3) Construction Limits: 287 + 75 - 304 + 58.2 T7S R4E - SE ¼ of Section 21 <i>Long Indian Peak Quad</i>						
Twin Cabin Trailhead	Recreation Area	USFS	Slope flattening on both sides Widen shoulders on both sides	West: George and Clara Lemon Lorrie Ann Moore / Pierson Jowayne and Stanley Curran Buralow Family Inc.	No	The Twin Cabin Trailhead is located approximately 850 ft from the preliminary construction limits on the opposite side (east side) of the Gallatin River and therefore the site would not be impacted. Access to the site would not be permanently impacted.

Summary of Potential 4(f) Resources by Improvement Location (continued)

Potential 4(f) Site	Resource Type	Officials with Jurisdiction	Proposed MDT Improvement	Adjacent Property Owners	Potential 4(f) Impact/ Use	Comment
<p>Big Sky Improvement Area (RP 45.0-48.4) Construction Limits: 216 + 62.62 – 271 + 58.89 T7S R4E - E ½ of Section 8 & W ½ of Section 9 <i>Chapel Falls & Lone Indian Peak Grads</i></p>						
Porcupine Creek Trailhead	Recreation Area	USFS	Two-way (center) left turn lane Right turn lanes Widening shoulders on both sides	West: Kent and Helen Grimm, Patricia Eudy, Donald Boyd East: Gallatin National Forest	No	The Porcupine Creek Trailhead is located approximately 1200 ft from the preliminary construction limits on the opposite side (east side) of the river and therefore the site would not be impacted. Access to the site would not be permanently impacted.
Gallatin Wildlife Management Area	Wildlife Refuge	MFWP	Two-way (center) left turn lane Right turn lanes Widening shoulders on both sides	West: Montana Fish Wildlife & Parks	No	No right-of-way will be required from the GWMA, as per an April 12, 2004 email from Zach Cunningham, Butte District ROW. MDT will need to consult with the GNF, MFWP, and USFWS to discuss this conclusion. Note: This land was acquired by MFWP with federal funds under the Pittman-Robertson Act for use as Elk winter range. Lands acquired with Federal Aid funds must continue to serve the purpose for which they were acquired.
Ophir School Sports Fields	Recreation Area	School District	Two-way (center) left turn lane Southbound right turn lane at Ophir Creek School & Beaver Creek Road Widening shoulders on both sides	West: Ophir School District East: Montana Fish Wildlife & Parks, Gallatin National Forest	No	Right-of-way would be required from the School District property, but the sports fields would not be impacted as they are not adjacent to US 191. (Per Barry Brosten – April 1, 2004 email)

Summary of Potential 4(f) Resources by Improvement Location (continued)

Potential 4(f) Site	Resource Type	Officials with Jurisdiction	Proposed MDT Improvement	Adjacent Property Owners	Potential 4(f) Impact/Use	Comment
Big Sky Improvement Area (RP 45.0-48.4) (continued)						
Big Sky Bike Path	Recreation Area	MDT	Two-way (center) left turn lane Widening shoulders on both sides Northbound at MT 64	<u>West:</u> Robert Kallestad Trustee, Kathy Bonelli and Fred Ast, Brad and Josette Parsch, Ponderosa Land Development <u>East:</u> Kathy Bonelli and Fred Ast	No	The path was constructed with CTEP funds and Montana resort tax revenues and is currently within MDT right-of-way. CTEP documentation (July 1995) on this facility indicates that the function of the path is to "offer an alternative route for non-motorized transportation accessible to bicycles, pedestrians, and the handicapped". This path is considered a transportation facility and not a recreation facility and therefore is not a 4(f) property.
			Northbound at Rams Horn Estates	<u>West:</u> Homelands Development Company <u>East:</u> Montana Fish Wildlife & Parks		
			Northbound at Ophir Creek Loop	<u>West:</u> H&J Investments, Lloyd and Rae Wruble <u>East:</u> Montana Fish Wildlife & Parks		
			Northbound at Beaver Creek Road	<u>West:</u> Kent and Helen Grimm, Patricia Eudy, Donald Boyd <u>East:</u> Gallatin National Forest		

Summary of Potential 4(f) Resources by Improvement Location (continued)

Potential 4(f) Site	Resource Type	Officials with Jurisdiction	Proposed MDT Improvement	Adjacent Property Owners	Potential 4(f) Impact/Use	Comment
Big Sky Improvement Area (RP 45.0-48.4) (continued)						
Big Sky Bike Path (cont.)	Recreation Area (cont.)	MDT (cont.)	Right turn lanes Widening shoulders on both sides		No	(see previous page)
			Southbound at Big Sky Spur	<u>West:</u> Robert Olson, Big Horn Prop. <u>East:</u> Anceny Ranch LLC		
			Southbound at Rams Horn Road	<u>West:</u> Homelands Development Company <u>East:</u> Montana Fish Wildlife & Parks		
			Southbound at Ophir Creek Loop	<u>West:</u> H&J Investments, Lloyd and Rae Wruble <u>East:</u> Montana Fish Wildlife & Parks		
Jack Smith Bridge Improvement Area (RP 49.6 - 49.8) Construction Limits: ~217 - 223 T7S R4E - SW ¼ Section 27 <i>Hidden Lake Outlet</i>						
There area no potential 4(f) resources near this improvement area.						

Summary of Potential 4(f) Resources by Improvement Location (continued)

Potential 4(f) Site	Resource Type	Officials with Jurisdiction	Proposed MDT Improvement	Adjacent Property Owners	Potential 4(f) Impact/Use	Comment
Karst Ranch Improvement Area (RP 55.3) Construction Limits: 71+15.2 - 76+38 T6S R4E - NW ¼ of Section 1 <i>Hidden Lake Quad</i>						
Asbestos Mine Trailhead	Recreation Area	USFS	Northbound left turn lane at Wildflower Way	<u>West:</u> Steve Wilken and Joel Peterson <u>East:</u> Federal Government, Barbara Dillon, David Devlaeminck, Nathan Cook, Lance and Terry Thomas, Anthony and Janice Aiello, Asa Sarver	No	The Asbestos Mine Trailhead is located approximately 450 ft from the preliminary construction limits on the opposite side (west side) of the Gallatin River and therefore the site would not be impacted. The trail is accessed via Wildflower Way and Park View Drive in the Park View West residential subdivision. Access to the site would not be permanently impacted.
Moose Creek Improvement Area (56.2) - Construction Limits: 85+94.2 - 91+17 T5S R4E - SW ¼ of Section 36 <i>Hidden Lake Quad</i>						
Moose Creek Flat Campground	Recreation Area	USFS	Northbound left turn lane	<u>West:</u> Gallatin National Forest	No	No right-of-way would be required for the proposed improvement as per April 12, 2004 email from Zach Cunningham, Butte District ROW. Tree removal would be necessary, but would occur on the west side of the road (opposite the campground).

Summary of Potential 4(f) Resources by Improvement Location (continued)

Potential 4(f) Site	Resource Type	Officials with Jurisdiction	Proposed MDT Improvement	Adjacent Property Owners	Potential 4(f) Impact/Use	Comment
Swan Creek Campground Improvement Area (57.3) Construction Limits: 105+15.45 – 112+13.71 TSS R4E - SW ¼ of Section 25 <i>Hidden Lake Quad</i>						
Swan Creek Campground	Recreation Area	USFS	Southbound left turn lane at Swan Creek Road Extension of guardrail Bridge Replacement at Swan Creek	East: Gallatin National Forest	No	The campground is approximately ½ mile east of US 191 and therefore the site would not be impacted. Access to the site would not be permanently impacted
Swan Creek Trailhead	Recreation Area	USFS	Southbound left turn lane at Swan Creek Road Extension of guardrail Bridge Replacement at Swan Creek	East: Gallatin National Forest	No	The Swan Creek Trailhead is approximately ½ mile east of US 191 and therefore would not be impacted. Access to the site would not be permanently impacted.
Greek Creek Campground Improvement Area (58.3) Construction Limits: 117 + 72.98 – 125+90.8 TSS R4E - SW ¼ of Section 24 <i>Garnet Mountain Quad</i>						
Greek Creek Campground	Recreation Area	USFS	Southbound left turn lane Northbound left turn lane Widen shoulders on both sides	West: Gallatin National Forest East: Gallatin National Forest	No	No right-of-way would be required for the proposed improvement as per April 12, 2004 email from Zach Cunningham, Butte District ROW. Tree removal would be required on both sides of US 191. This would reduce the buffer between the Greek Creek campsites and US 191 and could cause an adverse visual impact.

Summary of Potential 4(f) Resources by Improvement Location (continued)

Potential 4(f) Site	Resource Type	Officials with Jurisdiction	Proposed MDT Improvement	Adjacent Property Owners	Potential 4(f) Impact/Use	Comment
Storm Castle Creek Access/Castle Rock Inn Improvement Area (64.9 – 66.0) Construction Limits: 245+18 - 251+10 T4S R4E - SW ¼ of Section 28 <i>Garnet Mountain Quad</i>						
Spire Rock Campground	Recreation Area	USFS	Southbound left turn lane at Squaw Creek Road Slope flattening on the right side Widen shoulders on both sides	East: Gallatin National Forest	No	The Spire Rock Campground is located approximately 2 miles east of US 191 and therefore the site would not be impacted. The campground is accessed via Squaw Creek Road. Access would not be permanently impeded.
Garnet Mountain Cabin	Recreation Area	USFS	Southbound left turn lane at Squaw Creek Road Slope flattening on the right side Widen shoulders on both sides	East: Gallatin National Forest	No	The Garnet Mountain Cabin is located approximately 1 mile east of US 191 and therefore the site would not be impacted. The cabin is accessed via Squaw Creek Road. Access would not be permanently impeded.
Sheep Rock Trailhead	Recreation Area	USFS	Southbound left turn lane at Squaw Creek Road Slope flattening on the right side Widen shoulders on both sides	East: Gallatin National Forest	No	The Sheep Rock Trailhead is located approximately 400 feet from preliminary construction limits on the opposite side (east side) of the Gallatin River. Access to the site would not be permanently impacted.
Spanish Creek Improvement Area (67.9 – 68.1) Construction Limits: 274+78.77 – 283+66.36 T4S R4E - NW ¼ of Section 18 <i>Beacon Point Quad</i>						
There are no potential 4(f) resources near the improvement area						

Summary of Potential 4(f) Resources by Improvement Location (continued)

Potential 4(f) Site	Resource Type	Officials with Jurisdiction	Proposed MDT Improvement	Adjacent Property Owners	Potential 4(f) Impact/Use	Comment
Other Sites Within the Project Area (Not Near Improvement Areas)						
Teepee Creek Trailhead	Recreation Area	USFS	None	Gallatin National Forest	No	The Teepee Creek Trailhead is located near RP 32.5 within the project corridor limits but is not in proximity to improvements proposed for this project.
Sage Creek Trailhead	Recreation Area	USFS	None	Gallatin National Forest	No	The Sage Creek Trailhead is located near RP 34 within the project corridor limits but is not in proximity to improvements proposed for this project.
Wilson Draw Trailhead	Recreation Area	USFS	None	Gallatin National Forest	No	The Wilson Draw Trailhead is located near RP 35.5 within the project corridor limits but is not in proximity to improvements proposed for this project.
Marble Mountain Trailhead	Recreation Area	USFS	None	Gallatin National Forest	No	The Marble Mountain Trailhead is located near RP 37 within the project corridor limits but is not in proximity to improvements proposed for this project.
Cinnamon Buck Trailhead	Recreation Area	USFS	None	Gallatin National Forest	No	The Cinnamon Buck Trailhead is located near RP 37 within the project corridor limits but is not in proximity to improvements proposed for this project.
Elkhorn River Ford Trailhead	Recreation Area	USFS	None	Gallatin National Forest	No	The Elkhorn River Ford Trailhead is located near RP 40 within the project corridor limits but is not in proximity to improvements proposed for this project.

Summary of Potential 4(f) Resources by Improvement Location (continued)

Potential 4(f) Site	Resource Type	Officials with Jurisdiction	Proposed MDT Improvement	Adjacent Property Owners	Potential 4(f) Impact/Use	Comment
Other Sites Within the Project Area (Not Near Improvement Areas) (continued)						
Wildlife Management Area	Wildlife Refuge	MFWP	None	Montana Fish Wildlife & Parks	No	This site is part of the GWMA and is located between RP 40 and 41 within the project corridor limits but is not in proximity to improvements proposed for this project.
Dudley Creek Trailhead	Recreation Area	USFS	None	Gallatin National Forest	No	The Dudley Creek Trailhead is located near RP 48.5 within the project corridor limits but is not in proximity to improvements proposed for this project.
Deer Creek Trailhead	Recreation Area	USFS	None	Gallatin National Forest	No	The Deer Creek Trailhead is located near 51.5 within the project corridor limits but is not in proximity to improvements proposed for this project.
Windy Pass Cabin	Recreation Area	USFS	None	Gallatin National Forest	No	The Windy Pass Cabin is located within the project corridor limits but is not in proximity to improvements proposed for this project. The Cabin is accessed via Portal Creek Road, which connects with US 191 near RP 53.
Lava Lake Trailhead	Recreation Area	USFS	None	Gallatin National Forest	No	The Lava Lake Trailhead is located near RP 61 within the project corridor limits but is not in proximity to improvements proposed for this project.

Summary of Potential 4(f) Resources by Improvement Location (continued)

Potential 4(f) Site	Resource Type	Officials with Jurisdiction	Proposed MDT Improvement	Adjacent Property Owners	Potential 4(f) Impact/ Use	Comment
Other Sites Within the Project Area (Not Near Improvement Areas) (continued)						
Gallatin Riverside Trailhead	Recreation Area	USFS	None	Gallatin National Forest	No	The Gallatin Riverside Trailhead is located near RP 61.5 within the project corridor limits but is not in proximity to improvements proposed for this project.
Hellroaring Creek Trailhead	Recreation Area	USFS	None	Gallatin National Forest	No	The Hellroaring Creek Trailhead is located near RP 63.5 within the project corridor limits but is not in proximity to improvements proposed for this project.
Garnet Mountain Trailhead	Recreation Area	USFS	None	Gallatin National Forest	No	The Garnet Mountain Trailhead is located near RP 63.5 within the project corridor limits but is not in proximity to improvements proposed for this project.
Storm Castle Trailhead	Recreation Area	USFS	None	Gallatin National Forest	No	The Storm Castle Trailhead is located near RP 63.5 within the project corridor limits but is not in proximity to improvements proposed for this project.
Indian Ridge Trailhead	Recreation Area	USFS	None	Gallatin National Forest	No	The Indian Ridge Trailhead is located near RP 64.5 within the project corridor limits but is not in proximity to improvements proposed for this project.

GALLATIN CANYON: SLOPE FLATTENING/WIDENING
Project No. STPHS 50-1(14)8 Control No. A544



Summary of Potential 4(f) Resources by Improvement Location (continued)

Potential 4(f) Site	Resource Type	Officials with Jurisdiction	Proposed MDT Improvement	Adjacent Property Owners	Potential 4(f) Impact/Use	Comment
Other Sites Within the Project Area (Not Near Improvement Areas) (continued)						
Kirk Wildlife Refuge	Wildlife Refuge	MFWP	None	Montana Fish Wildlife & Parks	No	The Kirk Wildlife Refuge was acquired by MFWP as a fishing access site. The site is located near RP 69 within the project corridor limits but is not in proximity to improvements proposed for this project.

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